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Portugal package a move to prevent new emergency

BY DIANA SMITH Lisbon, Feb. 27

After seven months of hesitant debate Portugal's minority Socialist Government has finally moved to stave off national bankruptcy and avert the danger of a return to authoritarian rule.

The major package of *economic measures announced* at the week-end, including a 15 per cent. devaluation of the escudo, *is also intended* to restore the country's international credibility on the eve of its application to join the EEC and further efforts to mobilise financial aid from Western industrialised nations.

The move comes after recent growing concern in Lisbon that the armed forces would once again be tempted to intervene if Dr. Mario Soares, the Prime Minister, failed to act decisively to rebuild the country's *economy after nearly three years* of Socialist revolution.

With foreign exchange reserves running out *the Government* is hoping to draw on the IMF within the next two months to start repaying the $300m. short-term borrowing it has just arranged with the U.S.

Inflationary

Later in the year, it hopes to mobilise a $1.5bn. international rescue operation to be financed by the U.S., EEC and Japan.

Devaluation — described as inevitable by Cabinet Ministers —is only part of a 50-item package of emergency measures rushed through at lengthy Cabinet meetings.

The Government will now wait to see if the Portuguese public *will respond* to the restrictions and incentives with voluntary restraint and hard work.

While foreign advisers recommended devaluation of 20-25 per cent., the Portuguese authorities felt that they could not afford its inflationary effects on the billions of escudos-worth of food and animal feeds the country must import. "Fifteen per cent.," a Government spokesman said, "was all we felt we could bear at this time."

The Government now hopes to attract more foreign tourists, and remittances from the 1,500,000 Portuguese working abroad, thus closing some of the *£580m. gap in the balance of* payments.

To increase the attraction of devaluation for emigrants, the Government will grant them tax exemption on interest from long-term bank deposits.

The Government's new *measures are aimed at building up* the export industries and discouraging imports of non-essentials. The emergency package takes the first step by promising tax relief for export industries and announcing quotas on non-essential imports (until the end of the year) as a temporary deterrent.

Private consumption will be *discouraged further*, the Cabinet hopes, by higher sales tax (12 per cent. on ordinary goods, 50 per cent. on luxuries). Private savings will be encouraged by new bond issues paying 14 per cent. yearly interest and a 1.5 per cent. increase in interest paid on current issues.

Interest rates

Bank interest rates will go up *to-morrow to 8 per cent.* Banks will soon provide more favourable interest rates for investment credits and credits for purchase of new machinery.

● **John Wyles writes:** Devaluation of the escudo will make holidays in Portugal cheaper, *but tourists who have booked* guaranteed price holidays there with British travel companies will not directly benefit, Mr. Harry Chandler, chairman of the Association of British Travel Agents' tour operators council, said yesterday.

Most of the major travel companies have guaranteed their charges over the past two months and this means "no surcharges and no rebates."

Unless these operators decide otherwise it also means that charges for Portuguese holidays *will remain unchanged for the* remainder of the season.

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Caution advised on spending cuts

BY ANTHONY HARRIS

CUTTING PUBLIC expenditure is not a panacea, and the present Government strategy may be more deflationary than was intended, according to a distinguished group of economists, including Sir Alec Cairncross, *former chief economic adviser to* the Government.

If the economy does grow more slowly than expected, they hope the Government will not stick too rigidly to its target for the Public Sector Borrowing Requirement, provided that it has no difficulty financing it outside the banking system.

They give a warning that recovery from combined recession and inflation is bound to be slow and they express little *confidence in the industrial* strategy.

The group argues that too much stress is being put on industrial investment at present. It says an incomes policy extended for three years would make the biggest contribution of all to recovery.

Big risks

Apart from Sir Alec, the group includes Mr. Michael Posner, who retired in September as the Government's deputy economic adviser, Mr. John Flemming, recently an adviser to the Bank of England, and a number of *other leading economists* who have advised the Government at one time or another.

Their report, drafted by Mr. R. C. O. Matthews, master of Clare College, Cambridge *and* Mr. M. A. King, Fellow of St. John's College, Cambridge, appears in the Midland Bank Review published to-day.

The economists describe present Government policy as "uninspiring" and say that it *clearly involves substantial* risks. They suggest too that more attention needs to be given to contingency planning.

The group is afraid that unexpected developments—a rise in commodity prices, a wage acceleration, or disappointing world trade—could make present policies inappropriate.

Mythology

However, they endorse the basic strategy when they say that even worse risks would be involved in any policy which was either more deflationary or more expansive.

Yet *the economists warn* that the present policy of shifting resources out of public expendi*ture to leave room for the* expansion of exports and investment and for tax cutting may be deflationary.

They say it requires very strong assumptions to conclude

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TUC seeks £100m. jobs subsidy plan

BY CHRISTIAN TYLER, LABOUR CORRESPONDENT

THE TUC wants the Government to invest £100m. in a job subsidy scheme as part of an expansionary Budget *designed to raise* industrial output and tackle unemployment.

The job expansion subsidy would mean employers receiving £20 a week for every job they *created above their average* payroll last year.

It would allow the youth employment subsidy to end and make up, the TUC thinks, for abolition of the regional employment premium last month.

Expansion

The TUC wants controlled *expansion of the economy at an* estimated cost of £2.4bn., of which by far the largest part, *£1.5bn.*, would be income tax cuts.

It believes the effect of these cuts (option for which include creating a lower tax band of 30 or 25 per cent.; increasing allowances; making national insurance contributions tax-allowable) and direct action on jobs, may be to put 250,000 more people in work over the next 18 months.

These proposals for the March 29 Budget are contained in the TUC's annual economic review, published to-day, and discussed in detail with the Chancellor last Friday.

His response will largely determine what kind of agree*ment, if any, can be struck for* another phase of wage restraint after July 31, when the £2.50-£4 incomes policy runs out.

Last week the CBI called for £2bn. of tax cuts, with special emphasis on skilled workers, managers and the higher paid.

The TUC cuts are aimed at the lower end; it says the allowance increases it proposes "negate *any argument for any early* adjustment of the higher rates."

The TUC suggests abolishing tax relief on mortgage and *insurance payments in the* higher bands.

Savings

Its proposal for a £100m. job expansion subsidy—net of the savings it brings—compares with the £600m. the Government has set aside for a range of direct and indirect employment measures since the 1975 Budget. Since then it reckons to have saved or created over 500,000 jobs or training places.

The subsidy would encourage companies to advance their expansion plans, says the TUC. The subsidy might drop progressively to zero over, say, four years, to prevent sudden redundancies following its withdrawal. It would have to be based on the numbers in an entire company, not at individual sites or factories.

The TUC admits that some employers would be subsidised for recruits they had planned to take on anyway.

But it points out there would be savings in unemployment pay and addition to tax revenue from those taken on as direct result of the subsidy.

The Department of Employment is already reviewing all *job measures. An announcement* of any changes may come with or at about the time of the Budget.

TUC's proposals, Page 10

Builders to receive cold comfort on expenditure

BY ADRIAN HAMILTON

THE GOVERNMENT is giving the cold shoulder to construction *industry pleas that it take urgent* action to help reverse the decline in the construction market.

In a paper to be considered at Wednesday's meeting of the *National Economic Development* Council, Mr Peter Shore, Environment Secretary, is thought to argue that there is little that can be done to prevent public expenditure cuts from further damaging the hard-pressed industry.

His paper is in response to calls put forward by the Civil Engineering and Building little Neddies last October urging changes in the allocation of ex*penditure cuts, tax incentives,* and other Government measures to increase demand.

This has been followed by a number of meetings between the Government and the construction industry's national consultative council, arguing that a steady deterioration of the industry's prospects could prove an obstacle to the country's industrial recovery.

Mr. Shore, however, has replied in his paper that the Government cannot now change the size or distribution of public expenditure cuts, which have had *a particularly severe effect on* capital rather than current expenditure plans.

He also gives a cool response to industry suggestions that the *industrial development certificate* (IDC) system should be abolished, that 100 per cent. de-

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NEB talks on Leyland investment to-day

BY DAVID CHURCHILL AND TERRY DODSWORTH

TWO CRUCIAL MEETINGS which could affect the future of strike-torn British Leyland, where 30,000 workers are laid off and the bulk of production is stopped by an unofficial strike *of toolmakers, are being held* to-day.

The National Enterprise Board is expected to discuss in London whether it should withhold further investment finance to the company because of its disastrous industrial relations record and *lost production, estimated at* £400m. in the past year.

Longbridge issue

In Birmingham shop stewards and up to 1,000 toolmakers at the Longbridge assembly plant, the largest single group of the 3,000 toolmakers on strike, are to decide whether to obey official union instructions to return to work. If *they refuse*, then the *shop stewards* could have their credentials withdrawn by the union.

But a return to work by the Longbridge toolmakers would almost certainly lead to the collapse at other plants of the week-old toolmakers' strike over separate negotiating rights with the company, and relieve the National Enterprise Board of *making immediate decisions* on Leyland's future.

The Board's meeting to-day will be the third in a week at which Leyland's problems have been the central issue. Last Tuesday Board members met senior management from British Leyland to discuss the strike and investment position, followed by last Friday's meeting at which Leyland's strategy was again considered.

To-day's meeting may lead to some commitment to withhold further finance from the company until the industrial relations position is shown to have improved considerably.

Because of the failure to meet productivity targets, the company has been unable to meet the targets for internal cash generation set out in the report prepared by Lord Ryder, now chairman of the National Enterprise Board.

In the light of this failure, Lord Ryder is expected to spell out the fact that the Board will meet no cash shortfall resulting from the company's production problems. The effect of such an action would emphasise again *the need for the company to get back to orderly production*.

Leyland's immediate investment programme, based on *£100m. of loan finance* already sanctioned and allocated to several modernisation plans, including the new Mini, may also be threatened. This sum, made up of £70m. advanced by the NEB and £30m. directly voted by Parliament under the *Industry Act was allocated last* July, but has not been taken up by the company.

The NEB *might have second* thoughts on this funding, or the Leyland Board might refuse to take up the money in the present situation.

This midsummer the NEB was due to consider £200m.-worth more of investment finance.

Mr. Terry Duffy, the Midlands executive member of the Amalgamated Union of Engineering Workers, also suggested last night that NEB finance might not be forthcoming. "No Government will keep on pumping money into a factory that is closed by strikes," he said.

The toolmakers strike, entering its second week to-day, is *over a claim for separate nego*tiations with Leyland.

The AUEW executive instructed the strikers last week to return to work, and this morn*ing's meeting* at Longbridge is one of the first mass meetings called to consider the executive's instruction.

On Saturday the unofficial shop stewards' committee rejected a return to work.

Jaguar recall

The toolmakers' strike has coincided with several minor disputes at Leyland Cars which affected 30,000 workers and *stopped* production of all car models except the Mini, Range Rover, Maxi and Princess.

About 3,750 workers are *due* to be recalled to-day at the Jaguar and Rover plants because of the availability of components following the end of the Castle Bromwich body plant dispute, but more models and workers will be affected this week by the *toolmakers*.

News Analysis Page 10

Heath urges action on direct elections for Europe

BY RUPERT CORNWELL, LOBBY STAFF

MR. EDWARD HEATH yesterday warned the Government that it would fail the country's EEC partners and humiliate Britain if it continued to stall on introducing a bill for direct elections to the European Parliament.

Time, he said, was running out fast. If the target of summer 1978 for the first such elections was to be met, legislation would have to be introduced in the Commons without further delay.

His words, to a Europe Day rally in West Malling, Kent, came just two days after the Cabinet publicly demonstrated its own acute dilemma on the issue by effectively postponing action for a further three months.

Last week, at a private meeting of Labour MPs, the *Prime Minister* took a similar line to the former Tory leader, making clear to them the Government's commitment to direct elections and the possible repercussions of failing to meet the deadline.

But the Cabinet, where the party's deep split on direct elections is mirrored, decided on Friday to publish a White Paper next month setting out the choices open, thus ruling out the early bill demanded by Mr. Heath and pro-marketeers on both sides of the House.

Even if legislation was passed, agreement would have to be reached on the boundaries of the 81 giant constituencies from which members would be elected for the European Assembly, and the parties would have to select their candidates, Mr. Heath said.

Direct elections, and the new political impetus they would give to the Community, were an important step forward for Britain and Europe. But if one country was not ready, then the whole *exercise would have to* be postponed.

"We are deluding ourselves if we think we can achieve all our other objectives if at the same time we jeopardise our partner's intentions to hold them in 1978," he said.

Britain wanted a new energy policy, a new common agricultural policy, and a new fisheries policy. But progress on these fronts would be impossible if the Government continued to drag its heels with no excuse.

Meanwhile, a new chapter *opens this week on the devolution* bill, the Government's other great Parliamentary headache, but one whose outcome looks equally uncertain.

Following the crushing defeat in last Tuesday's guillotine, Mr. Michael Foot, the Minister in charge, begins his efforts to negotiate an agreed solution to the Scotland and Wales Bill with the leaders of other parties.

But it is hard to see how any formal body, Select Committee or any other, will not founder on the same rocks that capsized the *timetable motion* in the first place, as concessions to one interest group merely antagonise another.

Regional Tories revolt Page 7
Labour opposition to CAP Back Page

NEWS SUMMARY

GENERAL

...arty ...tacks ...mith ...licy

...Rhodesian Parliament is to debate proposals to ...cial discrimination. Mr. ...ith, Prime Minister, has under outspoken attack ...r. Harold Coleman, acting chairman of Mr. Smith's Rhodesian Front party.

...Coleman said over the ...d that it was now obvious ...r. Smith's Government, ...as elected on Rhodesian ...rinciples, had abandoned ...ompletely.

...ent on to demand that ...onour the undertakings ...y them to the party when ...ere accepted as parlia...candidates. Back Page

...n postpones ...rican meeting

...it Amin has postponed ...ting with the estimated ...ericans in Uganda from ...ntil Wednesday because ...distances some of the ...ns have to cover to reach ...airport. Originally the ...was to have been held ...ala. Preaching in Papua ...nea, Dr. Donald Coggan, ...op of Canterbury, ...d President Amin as "a ...el and pagan tyrant."

...ur chances ...n Scotland

...inion poll published ...y in the Sunday Mail, ...showed that Labour ...se a score of seats to ...tish Nationalists were a ...Election to be held in ...future. Back Page

...feared ...in floods

...y roads in Britain ...closed because of flood... Derbyshire the swollen ...was feared to have ...he life of a second boy. ...rk, Notts, the body of ...woman was seen being ...wn the flooded Trent. ...set, a 63-year-old woman ...is disappeared. ...was ...to have been a flood ...At Trent Lock, near ...m, a pub landlord ...is former naval diving ...the cellarwork. Flood *for farmers* Page 7

...may have ...l bank girl

...ear-old girl bank clerk, ...ppeared after a bank ...hich a young male col... ...s bound and gagged and ...o death at Williams and ...ranch in the Cheshire ...f Prestbury, may have ...exposure, police said. ...The girl's body was ...open moorland 15 miles ...bank.

...lispute

...newspaper has not ...to-day because of an ...n dispute. A demarca... ...ute has existed between ...nal Graphical Associa... SLADE, the Society of ...hic Artists, Designers ...avers, for 18 months.

...in haul

...officers have seized ...heroin worth £1.5m. ...a Malaysian ship at ...he Customs announced ...t night.

...ent power

...from a number of ...throughout the country ...London yesterday and ...to co-ordinate their ...against fee increases. ...n of some colleges is

...ly...

...zed six died and at least ...le were injured in ...worst political clash of ...s General Election cam-

BUSINESS

Slower rise in food prices

● FOOD PRICES rose this month at less than half the rate in January, according to the latest Financial Times Grocery Prices Index. Although dairy products, coffee, some bread and *preserves all went up*, there was a sharp fall in the cost of meat and fruit.

In the non-food sector, the price of detergents and household tissues jumped 6 per cent. But overall, the Grocery Prices Index increased by 1.16 per cent. Page 10

● HOUSEWIVES bought less beef, bacon and potatoes as they tried to beat inflation in the last three months of last year. *Purchases of tea dropped sharply* in the face of a steep price rise, but a record amount of coffee was bought, possibly in anticipation of a further price increase. Page 7

● PROPOSED SALE of cut-price EEC butter to the Soviet Union has stiffened the U.K. Government's resolve to bring about an overhaul of the Common Agricultural Policy in favour of consumers. Back Page

Italy seeks agreement on IMF aid

● ITALY is expected to receive a *further stand-by* credit from the International Monetary Fund, after talks in Rome between Italian officials and a visiting team of IMF experts. Italy is likely to undertake to hold its inflation rate this year to well under 20 per cent. Back Page

● DEMAND FOR OIL from OPEC countries fell sharply last month and was the lowest for nearly a year. There had been heavy stockpiling *in December* ahead of the OPEC price increase on January 1. Page 5

● NEW CHALLENGE to European car makers will be launched next month, when Hyundai Motor of South Korea *displays its new car*, the Italian-designed Pony, at the Geneva show. The car will be marketed first in *Scandinavia and* the Benelux countries and later in the U.K. Page 5

Consumers feel less confident

● CONSUMERS have been taking a much more pessimistic view of the future, judging by the latest Financial Times survey of consumer confidence. The number of people feeling worse off compared with a year ago has risen sharply. Page 10

● CO-OPERATIVE movement's fragmented structure is preventing it from competing effectively with other retail groups, according to a report by leading Co-op members. It calls for a single *national federation* to give the movement leadership and co-ordinate its activities. Page 7

● COUPONS are to be withdrawn entirely from Embassy *Gold and Embassy Envoy* cigarettes, while Embassy Regal can be bought with or without coupons. *All packs without* coupons will be down 2p. Back Page

Caution urged on accounting

● INFLATION ACCOUNTING problems are too complex and not yet widely enough understood to be resolved by a revolutionary changeover to a completely new accounting system, according to Price Waterhouse, the international accounting firm. Back Page

● HABIT PRECISION ENGINEERING, formerly Gloucester and Cheltenham Investments, is proposing a rights issue, a placing and a requotation for the shares. Page 26

LOMBARD

Lost production now discovered

BY SAMUEL BRITTAN

ONE OF the disadvantages of a rapid rate of inflation is that it devalues not only the currency, but also official statistics of output and volume, which become less reliable. This is more than a curiosity, as such statistics are used not only by Government policymakers but by business-*men and their advisers*. Fortunately, the revisions which may be necessary as a result are likely to be on balance in an upward or favourable direction.

The basic point is fairly simple. Many economic data come to the official statisticians in value form. If the value figures show a rate of increase of, say, 4 per cent. and the rate of inflation is 1 per cent., the bulk of the change is a volume one—approximately 3 per cent. in this case. If the rate of inflation is very high, say, 30 per cent., then by contrast, by far the greater part of changes in recorded value will be accounted for by price changes; and quite minor errors in estimating the rate of inflation could have quite marked effects on the volume changes. This is freely admitted by the CSO, which points out in its monthly Press release on the Index of Industrial Production that for this reason estimates are "subject to wider margins or error than for earlier years."

Distortion

The Production Index is exposed to a specific source of distortion resulting from the fact that the prices actually paid for fixed price contracts will be lower than the current prices recorded in the wholesale price index. A distortion which affects production both in the base period and the terminal period to the same extent will not affect the rate of increase of output; and this will be the case when *the rate of inflation is stable*. But when the rate of inflation is itself increasing, production will be understated more heavily in the terminal period.

The problem is greatest in the engineering industry which accounts for a quarter of the net output in manufacturing and where delivery periods of several months are common. The Department of Industry has sent out a sample questionnaire to everyone concerned to determine the extent of the distortion; and the results will be appearing shortly.

Recipients have been asked to divide up their sales or orders according to the period between receipt of order and delivery. They have also been asked to take the goods in each category and subdivide them into fixed price contracts, goods supplied at prices ruling on date of delivery ("PRD"), those subject to a price adjustment clause, and all other methods. Separate questionnaires were supplied for home and export business.

The biggest distortion will probably turn out to have been in 1974-75, when the national rate of inflation shot up to around 30 per cent. As a rough order of magnitude engineering output *may have been understated by* 3 to 4 per cent. in 1975. This would mean that total industrial production was understated by, say, about 1 per cent. The inflationary slump of that year remains; but it is something to know that production is more likely to have fallen by 4 per cent. than the 5 per cent. shown in the statistics; and for shorter periods the revisions could have a greater effect.

Revision

As industrial production is about half of GNP, the effect of the revision is likely to raise the output-based estimate of GNP for that year by ½ per cent. and also to reduce the discrepancy between it and the expenditure-based estimate. Because the rate of inflation was relatively stable in 1976, the distortions that year are likely to turn out very much smaller; and now that there is some information on the nature of the distortions, it should be possible to allow for them in the official statistics in any period of decelerating inflation.

There is another possible source of distortion to which analysts outside Whitehall are drawing attention. Wholesale price indices cover imported items. These are normally entered at current exchange rates; but where goods have been invoiced in foreign exchange and some of this exchange has been bought forward, actual prices may be overstated. But if prices are overstated, the volume of production is higher than the official figures show. This is another aspect of the point I made in this column a week ago about the potential overstatement of import volume in the trade figures.

The official view is that these matters require very thorough investigation and that there is no evidence yet to say whether any distortions are greater on the export than on the import side. One must therefore suspend judgment. It is some comfort that economic performance may have been a little less abysmal than it looked from the figures. But the most important point is that the indices which figure so heavily in the growth league tables can be no more than a rough-and-ready affair. *They are still well worth having*, but cannot support the portentous political or international comparisons so often drawn from them.

THE WEEK IN THE COURTS

Lords uphold basis for bill of exchange

BY JUSTINIAN

IT IS a deep-rooted concept of English commercial law that a claim for unliquidated damages under a contract of sale is no defence to a claim under a bill of exchange accepted by the purchaser. This principle was reaffirmed resoundingly by the House of Lords in *Nova (Jersey) Knit Ltd. v. Kammgarn Spinnerei GmbH*, where it was decided that an action on certain bills of exchange before the English court could not be stayed while arbitration proceedings in Germany between the parties were in progress to resolve disputes that did not involve the claim on the bills.

A seller and a buyer who agree upon payment by acceptance of bills of exchange do so not simply upon the basis that credit is given to the buyer so that the seller must in due course sue for the price of the contract of sale.

The bill of exchange is itself a contract separate from the contract of sale. Its purpose is not merely to serve as a negotiable instrument; it is also to avoid postponement of the buyer's liability to the seller where the postponement is grounded upon some allegation of failure to perform the terms of the contract in some respects by the seller.

It is conceivable that an agreement between the parties to go to arbitration on their disputes under a contract of sale might embrace liability under the bill of exchange, but for it to cover the latter the arbitration clause must be very definite and clear. Otherwise the claim under the *bill of exchange proceeds* without any reference to arbitration.

Venture

In the case before the House of Lords, the bills had been given in part payment for the price of 12 textile machines sold by an English company to a German buyer. The bills themselves did not, of course, contain an arbitration clause (indeed they could not; they would not be valid bills if they had). And there was no arbitration clause in the oral contract for the sale of the machines. The arbitration clause was to be found in subsequent dealings between the parties.

In 1969 Nova, an English company, and Kammgarn, a German company, agreed to a joint venture for the manufacture of jersey material in Bietigheim, Germany, where Kammgarn carried on business. The venture was organised through a German limited partnership formed in January, 1970, by a partnership agreement in writing.

Kammgarn was originally not party to that agreement; but as Nova was aware, it was one of several beneficiaries for whom a German trustee company's interest in the partnership was held. Kammgarn became, in February, 1973, a partner by assignment from the trustee company. The agreement established the new limited partnership, and provided for the contributions in capital and know-how to be contributed by the partners.

The agreement contained an arbitration clause. It provided: "All disputes arising from the partnership relationship or occasioned by, (or in connection with) the partnership relationship between the partnership and the partners shall be decided by the arbitration tribunal provided for in a separate document." The separate document opened with a recital of the agreement to go to arbitration.

Defence

Various disputes arose between the parties. The first few bills of exchange were paid on maturity, but at the end of 1973 Nova was informed that Kammgarn would not meet the remaining bills. Nova issued a *writ in England claiming the* money due on the bills totalling approximately £45,000.

Later it issued further writs relating to the remaining bills. Kammgarn wished to assert against Nova by way of defence, set-off or counterclaim that there had been mismanagement of the new limited partnership business that had in fact collapsed, for which it blamed Nova; and it also claimed that some of the machines supplied were not new but second-hand.

These claims for unliquidated damages were being actively pursued in Germany in arbitration proceedings. The substance of Kammgarn's claim in the English proceedings at this stage was that the whole of the dispute with Nova should be dealt with in Germany by the arbitrators, and that they ought not to be ordered by an English court to pay money due on the bills of exchange until after their cross-claims had been dealt with. That argument was accepted by the Court of Appeal, but failed in the House of Lords.

On the face of it, all the merits seemed to require that the whole dispute should go to arbitration in Germany, and that it was only a mere technicality that supported the claim by Nova for their money on the bills of exchange. Lord Wilberforce imperiously swept aside the simplistic suggestion that so powerfully persuaded the Court of Appeal.

When one person buys goods from another it is often important for the seller to be sure of his price. He may have bought the goods from someone else whom he has to pay promptly. He may demand payment in cash. But if the buyer cannot provide this at once he may agree to take bills of exchange payable at future dates.

These are taken as the equivalent to deferred instalments of cash. Unless they are to be treated as unconditionally payable instruments, which the seller can negotiate for cash, the seller might just as well give credit. And it is for that reason that English law does not allow cross-claims, or defences, except such limited defences as those based on fraud or invalidity of the bills themselves.

Proceeds

If the Court of Appeal's decision had stood—granting a stay of the English proceedings until the arbitration in Germany had been completed—there would have been a substantial inroad upon the commercial principle on which bills of exchange had hitherto invariably rested.

The English action was a straightforward case of an action on the bills of exchange to which no admissible defence had been put forward. The English action thus proceeds. Nova will now doubtless get its money judgment, and if Kammgarn succeeds in the German arbitration, then Nova will have to pay damages as ordered. But meantime Nova will no longer be out of money as represented by the bills of exchange.

SOCCER BY JAMES FRENCH

Even but brilliant game

AN EXCITING MATCH of high quality was foreseen when the F.A. Cup fifth-round draw pitched together the finalists of eight months before, Southampton and Manchester United. Saturday's tingling 2—2 draw, however, exceeded all expectations, and was, by general consensus, rated vastly superior to the Wembley game.

All the goals came in a marvellous first half that was on the boil throughout; the second, though no anti-climax, could do no more than keep it simmering, still enthrallingly and thrillingly.

It is regrettable that a side of such high quality as Southampton should again be confined to the Second Division by their own inconsistency in the League. Surprisingly they fielded only five of the side which won the Cup.

One strongly suspects that next season the dynamic Ball, since whose arrival from Arsenal Southampton have lost only once in 12 games, will not tolerate having to wait until the first Saturday in October for their first League win.

When it comes to Cup football, Southampton play like aristocrats. Indeed, their replay at Manchester must wait until next week because on Wednesday they visit Anderlecht, the strong Belgian club, for the away leg of their third European Cup-winners' Cup tie.

Manchester United are aristocrats. And, just as the advent of Ball has done so much for Southampton, since the return from long injury absence, United have lost only once in 13 games.

Fluid and inventive, they seemed to possess an extra dimension in imagination when it came to reviving an attack that appeared to have run into deadlock. Hill, dexterous and brilliant in his tight control of the ball, was a permanent thorn to plague Southampton's defence.

Evenly matched though these attractive sides were, there was this difference between them: Southampton's defence did not look MOT-tested, it was prone to the occasional piece of slapdashery, and always vulnerable.

United's defence was firm and disciplined, and it took some piece of brilliance from Channon, Ball or Osgood to put them at a disadvantage. Buchan, not always a highly conspicuous player, had a splendid game, quelling a lot of danger quietly, given an early start by his own highly-tuned vigilance.

Channon, so local folk said, had his best game for weeks. He was at his sharpest, driving goalwards with fine control and balance, capable of conjuring danger from brave pursuit of apparently forlorn hopes.

Backed by persistent prom... ing from Ball and some exc... lent touches by Osgood, ... stepped up his work-rate ... mensely. Channon always look... the matchwinner he was not ... prove — denied by the ... ance of United's veteran ... keeper Stepney.

United led after 14 minu... when Greenhoff (J.) lofted ... ball to the far side of goal ... Macari headed in. Channon ... surging across goal ... later when Stepney brought ... down and Peach scor... penalty.

A second invasion of the ... disciplined youthful horde ... "supports" United was ... by Hill after 40 minutes ... ways on, he struck a ... left-foot shot ... from near the right hand ... of the penalty area.

One minute before half... Channon, fed by Ball, ... his way through, and ... Holmes, who tucked the ... low inside the left post.

Other fine individual perfo... ances came from Southampto... Williams, aged 19, who impres... by his aggression, speed, ... stamina, and United's Mac... who showed great verve and ... cipation, and was always cap... of taking the most awkw... ball and making something of...

Arsenal's undistinguished exit

LONDON'S LAST representative, Arsenal, made an undistinguished exit from the F.A. Cup at Ayresome Park, where Middlesbrough trounced them 4-1.

What was so disappointing about this heavy defeat was that it was inflicted by a competent team playing rather ordinary football, and owed rather more to their own defensive deficiencies than to the ability of the opposition.

Middlesbrough do not possess a brilliant attack, which is reflected by a League record in which they have only netted on 25 occasions in 26 matches, including their three goals on Arsenal's previous visit two weeks ago.

They certainly cannot often have encountered a back four so painfully inept and lacking in cohesion, but must be congratulated on exploiting their good fortune so well.

Within 15 minutes of the start they had acquired a two-goal lead, thanks to a free kick and a fine Boersma dribble down the left flank.

On both occasions, Mills was the executioner and he was to *complete his hat-trick in the* closing seconds, when he was on hand to tap the ball into the net, after Cooper's shot had been parried.

In spite of the handicap of giving away two silly, early goals, Arsenal pulled themselves together and, with Hudson the prime motivator, produced the most co-ordinated soccer of the match, so that by half-time they had reduced the deficit to one.

The visitors did most of the attacking immediately after the interval, and it began to look as if they might save the day, until Souness found yet another gaping hole to burst through and Armstrong was there to push the ball home.

Matthews replaced an unhappy O'Leary, and the crossbar was struck at either end. But, despite several chances, there were no more goals until the lively Mills notched his third.

The art of being a good manager is to be able to motivate, and make the best possible use of the players at one's disposal. Jack Charlton has clearly achieved this.

His club have now reached the sixth round of the Cup and *should finish high enough in the* league to ensure an entry in Europe next year, in spite of having less basic talent than many First Division teams.

Although Craggs is a ... above-average right back, Bo... a much better centre-half than often appreciated, and Mills most efficient striker, suc... stems from a combination of ... complicated team work ... honest professionalism. Th... may be a lack of subtlety, ... not of effort.

Around Christmas, Terry Ne... appeared to be on the verge ... creating a new and exciti... Arsenal with a pleasing bala... of youth and experience.

In recent weeks, his hopes h... received a number of sharp s... backs, largely because ... defence has cracked, and ma... of the youngsters have te... porarily lost their form.

As well as a not completely ... O'Leary, Ross was a big d... appointment on Saturday, a... Stapleton, apart from one head... proved largely ineffectual ... front. However, Terry co... gain some satisfaction fr... Hudson's display.

Trevor Bail...

RUGBY BY PETER ROBBINS

Lancashire fluid and confident

LANCASHIRE SWEPT aside a rather hotchpotch Middlesex team to win the County Championship 17—6, at Waterloo on Saturday. After an exciting and entertaining first 60 minutes, the game deteriorated into a farrago of error.

Lancashire scored a splendid try first minutes before half-time after besieging Middlesex's line. It was made by Gullick's dextrous flick inside to Lyon. Gullick converted and also made the next try for Briers on the right.

If these two tries emphasise the difference in quality and ability, Lancashire's try immediately after half-time summed it all up. Cotton set up a ruck purposely, Carfoot, Horton, Slemen, and then Gullick went left before the ball was brought back right. Bond burst through to score.

This fluid play, the confidence and ability to keep the ball alive after drawing in the Middlesex defence, was the basis of the Lancashire victory. They were a team playing against 15 individuals and the communication and sympathy were admirable.

Surprisingly, Lancashire won a lot of ball at the line out in the first half, and they used this and their set possession in such variety that it was only a question of time before Middlesex yielded.

Lancashire run the ball in their 25 to give Slemen and Briers as much space as possible. Horton also made some vivid breaks but then would kick with great sensitivity to pester Richards, the Middlesex fullback.

Horton's freedom to direct the game tactically came from the huge efforts of his pack as usual well led by Creed. The speed and length of Carfoot's pass was also a great advantage, as was the support given by Connor and Neary in the loose. Fisher also established a marked supremacy over Bignell in hooking.

When Middlesex did win their possession in the closing stages, Lancashire were able to draw on their team discipline, and Horton was magnificent in his defensive kicking.

Yet probably Gullick's performance was the most significant with his intrusions into the line. He also kicked Lancashire's final penalty. Lyon floated some marvellous passes to the wings, which were Lancashire's strength.

Poor Middlesex with their f... wards selected from six diff... ent clubs were never in harmon... Individually MacGregor, M... dell, Ripley, and Ralston were ... very good, but the pack w... collectively slow. Howcroft ... shattered by the pace ... Middlesex were outplayed te... nically at the mauls.

Middlesex's pack did prov... enough for their backs, but ... was uncanny the number ... occasions that Middlesex ac... ally retreated when their bac... had the ball. The retreat beg... with some poor judgment fr... Lawson and Wilson, Scotlan... halfbacks. Lawson palpab... ignored Tiddy after a good ea... break, but he did score a r... away try from a short pena... which Croydon converted in t... second half.

MPs to urge tax relief for sport in Budget

MR. ROY HUGHES, MP, chairman of the all-party Parliamentary Sports Group, and Mr. Hector Munro, MP, the Conservative spokesman on sport, are to meet Mr. Joel Barnett, Chief Secretary to the Treasury, to-morrow to discuss the financial predicament of sport and ask that it be favourably treated in the Budget.

The Central Council of Physical Recreation, which has asked MPs to lobby the Treasury on its behalf, said at the week-end that it was optimistic about the possible benefits that co... result from the meeting.

"VAT and Corporation T... are having a particularly har... ful effect on sport. Abolition ... VAT on sport would allow ... great leap forward in the p... vision of opportunities a... sporting events."

The Council had been pr... sing for VAT to be taken out ... sport because it would imp... a £10m. burden this year, a... because of the estimated ... extra hours of work club offici... had to do filling in VAT for... and demands.

RACING BY DOMINIC WIGAN

Flash Imp should sneak in

THE WITHDRAWAL of Beacon Light from to-day's National Spirit Challenge Trophy has taken some of the interest away from Fontwell's most important two-mile one-furlong race.

Comedy of Errors, a winner by 10 lengths from Tree Tangle a year ago, has stood his ground and those smart performers Acquaint, Flash Imp and True Song will ensure a competitive event.

Acquaint and True Song are capable of creating an upset but I am prepared to narrow things to dual Champion Hurdle winner Comedy of Errors and Flash Imp, to whom he is set to concede 10 lbs.

Comedy of Errors, unsuccessful since just getting the better of Grand Canyon in Aintree's Templegate Hurdle towards the end of last season, ran his best race this term when going down by only four lengths in the Leopardstown Erin Foods Hurdle eight days ago.

That was a good performance, but as his trainer said: "The old sparkle wasn't there." For that reason, I side with the two-years younger Flash Imp, who enjoys what could well be a decisive pull in the weights.

Whatever his fate with Comedy of Errors, Fred Rimell should have one winner to-day for that highly rated novice Zarib has a comparatively simple task at Doncaster, where he goes for Division I of the Feversh... Novices Chase.

Later, I expect King Fla... who ran well for a long ... behind Ghost Writer as As... last time out, to lift the H... Melton Chase.

After his second behind ... almost unconsidered D... Hesitate in Saturday's Yell... Pages Pattern Chase at Kempt... Pendil has been pushed out ... 20 to 1 from 14 to 1 for n... month's Gold Cup.

Although his performa... under 12 st. was creditable, ... was not the Pendil of old an... cannot envisage him figur... prominently at Cheltenh... where he will be partnered ... Bob Davies.

John Francome, who opted ... Lanzarote even before ... former Champion hurdl... highly impressive victory ... Ascot's Reynoldstown Chase, ... be more confident than ever ... Lanzarote can cope with ... Devon, a short head second ... Pendil at Kempton last time.

FONTWELL
1.45—Great Things
2.15—Gardenvale
2.45—Flash Imp*
3.15—Royal Thrust
3.45—Never Worry
4.15—Noble Game

DONCASTER
12.30—The Bo-Weevil
1.00—Zarib**
1.30—Moat Hero
2.00—Tragus
3.00—Havus
3.30—King Flame***
4.00—Anything

TV/Radio

† Indicates programme in black and white

BBC 1

6.40-7.55 a.m. Open University (UHF only). 9.38 For Schools, Colleges. 10.45 You And Me. 11.00 For Schools, Colleges. 12.45 News. 1.00 Pebble Mill. 1.45 The Flumps. 2.01 For Schools, Colleges. 3.15 Songs of Praise. 3.53 Regional News (except London). 3.55 Play School. 4.20 It's the Wolf. 4.25 Jackanory. 4.40 Blue Peter. 5.05 John Craven's Newsround. 5.15 It's Our Turn! 5.35 Paddington.
5.40 News.
5.55 Nationwide (London and South-East only).
6.20 Nationwide.
6.50 Ask The Family.
7.15 Poldark.
8.10 Panorama.
9.00 News.
9.25 Clint Eastwood in "A Fistful of Dollars."
10.55 To-night.
11.35 Weather/Regional News.

All Regions as BBC-1 except at the following times:—

Wales—1.45-2.00 p.m. Pili Pala. 2.18-2.38 For Schools (Let's Look At Wales). 5.55-6.20 Wales To-day. 6.50-7.15 Heddiw. 9.25 "The Snowdropper," play by Alun Richards. 10.45-10.55 Young Artists. 11.35 News and Weather for Wales.

Scotland—5.55-6.20 p.m. Reporting Scotland. 10.55-11.30 Public Account. 11.30 News and Weather for Scotland.

Northern Ireland—2.18-2.38 p.m. For Schools. 3.53-3.55 Northern Ireland News. 5.55-6.20 Scene Around Six. 11.35 News and Weather for Northern Ireland.

England—5.55-6.20 p.m. Look East (Norwich); Look North (Leeds, Manchester, Newcastle); Midlands To-day (Birmingham); Points West (Bristol); South To-day (Southampton); Spotlight South-West (Plymouth).

BBC 2

6.40-7.55 a.m. Open University.
11.00 Play School.
3.00 p.m. Contact.
3.30 The Education Debate.
4.00 Signs of Trouble.
4.55-5.45 and 6.10-7.00 Open University.
7.00 News on 2 Headlines.
7.05 Wordpower.
7.30 Newsday.
7.45 Diary of a Village.
8.15 The Mike Reid Show.
9.00 Headmaster.
9.50 The Age of Uncertainty.
10.45 Centre Play.
11.10 Late News on 2.
11.20 Open Door.
11.50-11.55 Closedown. Lyndon Brook reads "Travelling to my Second Marriage on the Day of the First Moonshot," by Robert Nye.

LONDON

9.30 a.m. Schools Programmes. 10.37 London Looks Forward. 11.05 For Schools (continued). 12.00 ... And Maisy Too. 12.10 p.m. Pipkins. 12.30 Drive-In. 1.00 News plus FT Index. 1.20 To-day's Post. 1.30 Indoor League. 2.00 Good Afternoon. †2.25 Monday Matinee: "The Love Match," starring Arthur Askey and Thora Hird. 3.50 Emmerdale Farm. 4.20 Clapperboard. 4.45 The To-morrow People. 5.15 Batman.
5.45 News.
6.00 To-day.
6.45 Opportunity Knocks!
7.30 Coronation Street.
8.00 Oh! No It's Selwyn Froggitt.
8.30 World In Action.
9.00 Charlie's Angels.
10.00 News.
10.30 Rising Damp.
11.00 Help!
11.05 People And Politics.
12.05 a.m. Close: George Appleton reads one of his own prayers to-night.

All ITV Regions as London except at the following times:—

ANGLIA

12.30 p.m. Kitchen Garden. 1.25 Anglia News. 2.00 Houseparty. †2.25 Monday Matinee: "You're Only Young Twice" starring Duncan MacRae. 4.20 The Romper Room. 5.15 Run, Joe Run. 6.00 About Anglia. †10.30 Monday Late Film: "Taste The Blood Of Dracula" starring Christopher Lee. 12.20 a.m. Reflection.

ATV MIDLANDS

12.30 p.m. The Amazing World of Kreskin. 1.20 ATV Newsdesk. 2.25 Mystery Movie Matinee: Hawkins. 5.15 Survival. 6.00 ATV Today. 10.30 Larry Grayson. 11.00 Platform For Today. 11.45 Wait Till Your Father Gets Home. 12.15 a.m. Ian Knox . . . talking about Christianity in the world today.

BORDER

12.30 p.m. Kitchen Garden. †1.20 Border News. 2.00 Houseparty. 2.25 Monday Matinee: "The Feminist and the Fuzz." 5.15 Supersonic. 6.00 Border News and Lookaround. 6.15 Garnock Way. 10.30 Border Month. 11.15 Tandarra. †12.10 a.m. Border News Summery.

CHANNEL

†1.20 a.m. Channel Lunchtime News and What's On Where. 2.25 The Monday Matinee: Banacek. 5.15 David Niven's World. †6.00 Channel News †6.10 Speak Out. 10.30 Musical Ambassadors: Kenny Rogers and the First Edition in New Zealand. 11.30 The Baron. †12.25 a.m. Channel Gazette followed by News and Weather in French.

GRAMPIAN

9.25 a.m. First Thing. 12.30 p.m. The Amazing World of Kreskin. 1.20 Grampian News Headlines. 2.25 Beryl's Lot. 2.55 Pathfinders. 5.15 Happy Days. 6.00 Grampian Today. 6.10 Top Club. 10.30 Hec Ramsey. 12.15 a.m. Reflections.

GRANADA

12.30 p.m. Kitchen Garden. 1.20 Take Kerr. †2.25 Monday Matinee: "Partners in Crime". 5.15 Elephant Boy. 6.00 Granada Reports. 10.30 Larry Grayson. 11.00 Reports Politics. 11.30 Homicide.

HTV

12.30 p.m. Survival. 1.20 Report West Headlines. 1.25 Report Wales Headlines. 2.00 Out Of Town. 2.30 Garnock Way. 2.55 Department S. 5.15 Star Maidens. [illegible]

[illegible] Newyddion y Dydd. 2.00-2.30 Hamdden. 6.00-6.22 Y Dydd. 8.30-9.00 Yr Wythnos. 10.35 Pedwarawd. 11.20-12.15 Police Story.

HTV West—As HTV General Services except: 1.20-1.30 p.m. Report West Headlines. 6.22-6.45 Report West.

SCOTTISH

12.40 p.m. Kitchen Garden. †1.25 Road and Weather Report. 2.00 Houseparty. 2.25 Beryl's Lot. 2.55 Marcus Welby, M.D. 5.15 What's Your Problem? 6.00 Scotland Today. 6.35 Crimedesk. 10.30 Sutherland Brothers and Quiver in Concert. 11.00 Late Call. 11.05 TV Movie: "The Twilight People."

SOUTHERN

12.30 p.m. Survival. 1.20 Southern News. 2.00 Houseparty. 2.25 "Revolt At Fort Laramie." 5.15 Garnock Way. 6.00 Day by Day. 10.30 Special Branch. 11.30 Southern News Extra. 11.40 Canterbury Choristers. 11.45 Farm Progress.

TYNE TEES

9.25 a.m. Starting Point. 12.30 p.m. On the Light Side. 1.20 North East News and Lookaround. †2.25 Monday Film Matinee: "The Hour of 13." starring Peter Lawford. 3.50 Phyllis. 5.15 Emmerdale Farm. 6.00 Northern Life. 6.40 Police Call. 10.30 Wish You Were Here . . ? 11.00 Champions. 11.30 Oscar Peterson Presents. 12.00 Epilogue.

ULSTER

1.20 p.m. Lunchtime. 2.00 See You Monday. 2.30 Monday Matinee: "Joe Dakota." 3.48 Ulster News Headlines. 5.15 Garnock Way. 6.00 Ulster Television News. 6.05 Mary Tyler Moore Show. 6.30 Reports. 10.30 Monday Night. 10.35 Movie Macabre: "Horror of Dracula," starring Peter Cushing and Christopher Lee. 12.00 Bedtime.

WESTWARD

12.25 p.m. Gus Honeybun's Birthdays. 12.30 Kitchen Garden. 1.20 Westward News Headlines. 2.25 The Monday Matinee: "Banacek." 5.15 David Niven's World. 6.00 Westward Diary. 6.20 Sports Desk. 10.30 Winter Format. 11.25 Westward Late News. 11.28 The Baron. 12.25 a.m. Faith for Life.

YORKSHIRE

12.30 p.m. Kitchen Garden. 1.20 Calendar News. 1.30 The Mary Tyler Moore Show. †2.25 Monday Film Matinee: "The Hour of 13," Starring Peter Lawford and Dawn Addams. 3.50 Houseparty. 5.15 [illegible]

RADIO 1 247m

(S) Stereophonic broadcast

[illegible]

RADIO 2 1,500m and VHF

[illegible]

RADIO 4 434m, 330m, 285m and VHF

[illegible]

RADIO 3 464m, Stereo & VHF

[illegible]

BBC Radio London 206m and 94.9 VHF

[illegible]

London Broadcasting 261m and 97.3 VHF

[illegible]

Capital Radio 194m and 95.8 VHF

[illegible]

F.T. CROSSWORD PUZZLE No. 3,317

ACROSS

1 Dye for the comparatively insane (6)
4 Winds of change (6)
8 Gad about—possibly to parties (7)
9 "She must —— the everlasting sea" (Wordsworth) (7)
11 A method of staking a bird before the storm (10)
12 The shape in which cricketers should be found (4)
13 The dog shows the heart of a Roman soldier (5)
14 A strange pash about the college carriages (8)
16 To be the basis for what is less than prevarication (8)
18 It is thoroughly understood and recorded (5)
20 Dad includes the right support (4)
21 Tortuous lake (10)
23 Came to nothing with sailor or ex-premier in evidence (7)
24 Objects to the army unit—but still goes up (7)
25 "Then come kiss me sweet and ——" (T.N.) (6)
26 Secretive person from Troyes (6)

DOWN

1 The girl follows Mr. French with song (5)
2 Vessel for an aimless person (7)
3 The Latin sees in a different light what is indispensable (9)
5 This Charlotte is really sweet (5)
6 A misfit from Rugby (4-3)
7 Supported us in soiled surroundings (9)
10 The fruit of disapproval (9)
13 The middle piece can be boring (6-3)
15 *In the attempt they are found* referring to a proverbial expression (2, 4, 3)
17 Some in the river can be prejudiced (2, 5)
19 One in obvious suffering (7)
21 Exhausted writer in the street (5)
22 How low can you be (5)

The solution of last Saturday's prize puzzle will be published with names of winners next Saturday.

Joseph O'Conor and Jack Walters.

erman, Cardiff

King Lear

by MICHAEL COVENEY

outfit calling itself the h Drama Company should e and expect comparisons with the largest in the land. however, compelled by the ity of this production to o any reference to the onal, RSC, Edinburgh um or Dublin Abbey. The truth of the matter is that nnot recall sitting so increasly at a Shakespeare play chancing upon an unfortunmatinee of The Shrew in outh, fifteen years ago.

are Theatre is obviously well and kicking in (aficionados will want now that, after this week, production travels to Mold, ystwyth, Bangor and Swan-

When did you last see and stagger mortally wouncross the stage before as straight as a guards-

The Entertainment Guide is on Page 28

over the last three steps xit? Or, in similar vein, ld crawl obtrusively to ion after being pushed out he play by Edgar? Or ril trip in every speech and nent on "the differences of and man" as though assessval brands of soap powder? Albany gain a huge laugh Shut thy mouth, dame . . ."? Lear throw a purse to the uised Kent in gratitude for handling Oswald only to it way over his subject's retched hands and skidding the wings?

e real sadness is, though, Joseph O'Conor, an actor would usually expect to see ng Kent or Gloucester, gives an intelligent, lyrical perance at the centre of all Starting jovially, he tears a terrible tantrum at elia's honest inability to r him. There is thunder, in the laying of the ity curse on Goneril (an cessary effort, you feel, in production).

In the hovel scenes, Mr. O'Conor makes marvellous, often original, sense of every line. There is shape and comic meaning in the Dover capers; and some poignancy in the fact that Lear is shaken back to his senses by Cordelia's attentions before being finally crushed by her death. This is a good, solid and attentive interpretation, even if it does not make the hairs stand up on the back of your neck.

To continue briefly in positive strain, mention should be made of Caroline Hunt's resolute and clear-headed Cordelia, of Jack Walters' affecting Gloucester (although Coarse Theatre nearly does for him in the gouging scene, when I swear that the first eye shoots from his head in the form of a frozen shrimp) and of Anthony O'Donnell's chirpily predictable, tame but competent Fool. Peter Wickham has come in at the last moment as Edgar and will probably be giving a very good performance once he has sorted out his voices at Dover (essential to do this if Gloucester's "The trick of that voice I well remember" is to recapture its forceful irony).

The storm scenes are lumbered with crude lighting and sound effects; the costumes which seem, on the whole, to have been hewn from heavy curtain material, are redolent of church hall dramatics; the stage is crammed with people genuflecting, bowing, waving and goofing as though auditioning for the Shakespeare skit in *Beyond The Fringe*.

Leslie Perrin as Edmund dressed for battle has a clever trick of bouncing his chain mail musically against his cuisse; Edward Seckerson as Cornwall has the wobbly head and superfluous gestures of a young curate; Hubert Rees as Oswald, glowers from start to finish like a schoolboy with indigestion and a down on the gamesmaster for not putting him in the first eleven. But why go on? If this is what Wales offers as a National Theatre it is the best argument I have yet encountered against devolution.

Elizabeth Hall

William Byrd Choir

by RONALD CRICHTON

Two of the greatest 16th-century composers shared the honours of Saturday evening's concert: the Englishman who has given his name to Gavin Turner's accomplished choir, and his contemporary, the Spaniard Victoria, who spent much of his working life in Rome. Byrd was represented by Latin motets which stand for the hidden, Catholic side of his dual existence. If we had heard as well some of his Anglican Church music and secular works, his versatility would have been even more apparent compared with the deliberately restricted intensity of Victoria. As it was, two powerful, contrasted personalities emerged clearly.

Latin being less pliable than his native English, Byrd had less opportunity in these motets to display his extraordinary gift for making words lie along a musical phrase as if the two had been born together—not only ensuring that sense comes through but clarifying the part-writing. Latin words receive more emphatic pointing: the concluding pages of *Civitas sancti tui* become a kind of fantasia on the words "Jerusalem desolata est" in which syllable and note seem inseparable. The monumental, lapidary qualities of Latin did not rob Byrd of his subtlety. The five-part writing in *O quam gloriosum* is as free and quick-nerved as a Mozart Quintet: Saturday's performance of this motet with its pendant "Benedictio et claritas" drew applause in the middle of a group, and understandably so.

Byrd's music, second nature to these singers, sounded perfectly well in the Elizabeth Hall, better in fact than Victoria's, where as well as polyphony there is harmonic chordal writing ideally needing a large church. Or is that merely a sentimental desire for the quality known vaguely as "mystical," an accidental patina which does not necessarily deserve the compliment any more than chanting choruses in a 19th-century Russian opera? While the choir effortlessly found the right weight for Byrd, in Victoria (a generous selection including a Magnificat and a Mass (*Vidi speciosam*) as well as several motets) there was some initial stiffness in spite of support in double-choir works from the London Cornett and Sackbut Ensemble and from Stephen Barlow at the organ.

Each time, in spite of admirably clean and precise chording, the stylistic gap between Byrd and Victoria was too large to be crossed immediately, yet warmth and fullness crept in before the end of the piece. In the last item of all, Victoria's Psalm *Dixit Dominus*, the altos found the plangent, reedy colour associated with Latin church music, though Mediterranean choral singers are not often so steady. James Bowman and Robert Spencer added agreeable groups of lute songs by Dowland and by various Spanish composers. The latter included an arrangement by Vasquez and Fuenllana of the traditional "De los álamos vengo, madre" of which Falla used a version in his Harpsichord Concerto—in this for once we could hear Mr. Bowman singing low, in his tenor register.

The hall was packed, the audience enthusiastic. It is more than encouraging to see that enthusiasm for pre-classical music extends to the big things of the Renaissance and is not confined to little songs and dances. But though public support is obviously, and undeniably there, this support by itself will not necessarily solve the problems of keeping such a body as the William Byrd Choir going without regular grants from public funds. A note in the programme, restrained in tone though alarming in implications, pointed out that "with a capacity audience in the Queen Elizabeth Hall (the Choir) can expect to lose up to £500."

That is nothing to what an orchestra stands to lose, but orchestras one way and another have considerably more, if still sadly inadequate, backing. So the opportunity is there for enlightened sponsors. Polyphonic music may never have the mass appeal of the limited part of the symphonic repertory that is popular, but it is one of the summits of musical culture. It would be a tragic nonsense if non-liturgical performances were to dwindle away just when this music is taking hold on more than a specialised public.

Elizabeth Hall

English Chamber Orchestra

The English Chamber Orchestra's concert of Haydn and Mozart on Friday was conducted and directed from the keyboard by Murray Perahia. It was an exhilarating evening. Perahia has clearly established a warm and confident rapport with the ECO: they responded quickly and easily to the textural twists and sudden dynamic turns of Haydn's D major symphony no. 6 ("Le Matin"), and with enthusiasm to Perahia's vigorous tempi—a fresh, gay performance, with plenty of spring to its rhythms. In the second movement, the solo violin remained largely in the background, often barely rising above the orchestral texture: an unusual (possibly unintentional?), rather beautiful effect.

The rest of the programme was devoted to two contrasting Mozart piano concertos. K413 in E—the first of the 17 Vienna concertos, which span the last nine years of Mozart's life—is for some reason not often heard these days in the concert hall. Difficult to understand why: the music is the purest distillation of Mozartian manners, scored with the greatest refinement and economy, prodigal in themes, and in all manner of subtle working —rich in delicacies for the Viennese "connoisseurs" whom Mozart refers to in a famous letter to his father.

Perahia's performance was a delight: deft and delicate, full of dancing colours, exquisitely shaped. His K466 in D minor, by contrast, was iron-clad: strong and refreshingly forthright, but held taut and firm, the tension screwed almost to breaking point in Beethoven's massive cadenza to the first movement, released with a wonderful burst of gaiety in the finale.

DOMINIC GILL

New Victoria

Manhattan Transfer

by ANTONY THORNCROFT

It is a depressing indictment of the contemporary popular music scene that the freshest performance to be seen in London for many months should be a quartet of nicely matured Americans interpreting the music of the forties and fifties. Manhattan Transfer began on the New York bar scene four years ago and is now being enough to fill large London theatres with ecstatic audiences for nights on the trot.

The attraction is the songs, standards and rarities from the cocktail bars of 30 years ago, up to "doo-wah, doo-wah" ballads of the teen world of the fifties, combined with the enthusiastic energy of the performers. Although Manhattan Transfer has a bit to plug at the moment, the rather dreary *Chanson d'Amour*, the group in action is much more impressive than the close harmonies of the recordings.

The four dodge around on stage like dervishes, entertwining their bodies as intimately as their voices. Somehow it is more of a dance than the boring physical mannerisms favoured by the black groups. The same energy prompts a succession of changes in the scene.

After a slinky night club number, Tim Hauser appears bearded and balding, interpreting a black DJ, stoned to the pavement, and introducing Alan Paul as a Brylcreemed follower of Elvis, unzipping first his black leathers and then his white T shirt. Then it is all Latin Vira, and pass the tequila.

The girls Janis Siegel and Laurel Masse are equally versatile, as Latin dancers, as bespectacled support singers to Paul, and as vamps. Often they make songs reanimated from the morgue, like *Java Jive* and *Tuxedo Junction*, seem more lively than they really are; often their versions of half forgotten old smoothies, like *Blue Champagne* and *Candy*, expose a simplicity lost in the originals.

Manhattan Transfer is sophisticated cabaret put over so powerfully that it becomes popular entertainment. As singers, actors, and humorists they slap on a style which has been too often missing from recent popular music.

Festival Hall

London Philharmonic

by DAVID MURRAY

The London Philharmonic was in crackling form on Thursday for Sir Georg Solti, in a programme of Richard Strauss tone-poems—*Ein Heldenleben*, *Don Juan* and *Till Eulenspiegel*.

In that order, curiously: the last two pieces are, of course, quoted in *Heldenleben* among The Hero's Works of Peace, and it was odd to hear the citations not as proud retrospective thoughts, but as trailers for the second half of the concert. It may have created some harmless confusion among novices in the audience, for — as so often, much too often, when the Festival Hall is full — the supply of programmes was inadequate to the demand.

Solti did not, in any case, take the view that golden retrospect is the essence of *Heldenleben*. (I remember a Barbirolli performance in which the final vistas seemed to stretch unendingly.) Here the central combat with the Critics dominated the reading; it was properly electrifying, and the rest of the music had the ring of prelude-and-epilogue. David Nolan's solo violin took the role of Hero's Helpmate strongly and sweetly, but with only the merest hint of caprice or coquettishness: the result was that the Helpmate section of the score became something like a pause for cadenzas, rather than the introduction of a vivid new protagonist.

Don Juan was awarded six horns, half again as many as the 24-year-old Strauss dared to prescribe. Can Solti think that with only four, Juan's horn-tune risks passing unnoticed? But I do not complain: the orchestra swept through the piece with towering exuberance, and without scamping the wealth of ingenious detail in the music. Not surprisingly, Solti seemed keenly in rapport with the work, which regained its pristine irresistibility. *Till Eulenspiegel* was no less happy: it sounded dangerously rumbustious, even violent, but that is surely right —if Till were an innocuous joker, hanging him would be a poor sort of joke. Solti made the fatal event an inevitable cataclysm, but the japes along the way were neatly brought off too. This was *echt* Strauss playing; the London Philharmonic has rarely sounded better.

Standstill for the arts

Hope of any early increase in the Government subvention of the arts was fended off by Lord Donaldson, the Minister for the Arts, in a Press conference last Friday to discuss the Government's White Paper. On the other hand, fears that the arts might suffer a cut alongside other services were laid to rest at least until the year 1980-81—in so far as the present Government can accept responsibility so far ahead.

The figures forecast by the DES, which are the component for England—the Minister's responsibility, though it includes the whole of the Arts Council grant—are these:

1976-77 £40.5m.
1977-78 £40.9m.
1978-78 £40.5m.
1979-80 £40.6m.
1980-81 £40.6m.

These are the figures expressed in constant price terms at the prices reigning in late 1975, and they will be adjusted each year by an inflation coefficient according to the current national inflation figure. The arts will thus continue in real terms at their present level.

The Minister expressed a wistful hope that if more money were to be made available it could be used on such projects as the Housing the Museums fund, and to provide "a little fat" for the Arts Council.

Consoling as these figures are, they have only been obtained by deferring capital expenditure on various projects. It was better, the Minister observed, to keep things running than to embark on new matters at the expense of going concerns. About 80 per cent. of the quoted figures goes to the Arts Council. The rest goes to the British Film Institute, area museum services, the Crafts Advisory Committee, and sundry other smaller grants.

Royal Court

Devil's Island

"Devil's Island" is of course Great Britain, as seen in the oblique view through the spy-glass of Tony Bicât. In one long act we get three somewhat selective views of it, in 1937, in 1977 and in 1997. They become, oddly enough, less appalling with the passage of the decades.

In 1937, Hugh (Philip Donaghy) is back from the Spanish Civil War, blinded by a grenade. He has been fighting with an Anarchist battalion, but fails to respond when Kutchevski, a Russian agent (Simon Callow), seeks to enrol him in propaganda, for the Communists quarrelled with the Anarchists in Spain as keenly as the Loyalists. English society, meanwhile, represented by Betty, a wealthy land-owning lady (Gillian Barge), a married couple, Bill and Sue (David Rintoul and Jane Wood), and Sue's Leftish sister Jill (Suzanne Bertish), play at culture, play at politics or simply play, while the nation slides ineluctably towards the war.

Forty years on, the same people, unaged, engage in the new pursuits that Mr. Heath has encapsulated in his phrase, the unacceptable face of capitalism. Hugh and Kutchevski are planning an asset-stripping operation, which will so certainly ruin Bill and Sue that Bill, when he learns of it, takes a pistol and shoots his wife, his children and himself. "Middle management is riddled with suicides," says Kutchevski blandly. Betty, meanwhile, true lover of the ornamental, plans to emigrate to some tropical paradise and preserve the ancient native skills of dyeing against the temptation of profitable work in the canning industry.

1997 is science-fiction time. Betty, Jill, Hugh, Bill and Sue live on one floor of a former multi-storey car park, where they have all reverted to child-like insanity. Kutchevski comes with a story of 2,500 cans of pet-food to boost their commisariat; but he proves to be working for the "sharks," the police that surround this sanctuary with threats of brutality to anyone who dare leave.

Mr. Bicât's writing is characteristic of his generation—flip, cruel, funny, savage, with no concession to poetry. The players, directed by David Hare in the system used by this company, the Joint Stock Theatre Group, have worked alongside the writer in the preparation of the play, and inhabit their characters as closely as oysters in their shells; I do not think you will see acting more polished or direction more imaginative anywhere in London.

Whether there is much to be learnt from Mr. Bicât's sour view of English society is another matter. I doubt if he has said anything that has not been said already. But whichever side you take, *Devil's Island* gives you a very entertaining evening. It is exactly the kind of play the Royal Court should be giving us to restore its fallen fortunes.

B. A. YOUNG

St. John's, Smith Square

Schola Cantorum of Oxford

Robert Sherlaw Johnson's *Resurrection of Fen-Huang*, promised for Thursday's choral concert, failed to materialise, and the scheduled Walton work, the recent *Cantico del sole*, was replaced by "Where does the uttered music go?" The fare, as a whole, was safe and easily palatable; yet with music-making of such unfailing freshness and flexibility as consolation, the evening was never in the least dull. Just now the bloom of youth glows strongly on the tone of this excellent Oxford choir, 32-strong; under Nicholas Cleobury, the director, it is tended with care.

The programme was now divided between the leading English choral composers of this century, and Schumann, whose Four Songs for mixed choir, Op 59, and later whose Four Songs for mixed double chorus, Op. 141 (1849), formed an unfamiliar area of quite exceptional appeal. Reversing the usual Schumann rule (this happens surprisingly often), the later set proved tighter in construction, richer in material and dramatic vitality than the slightly rambling charms of Op. 59 three years earlier. Though Schumann's bass lines exposed the relative lightness of the Oxford men's voices, this could hardly be deemed a fault when the ensemble as a whole achieves such deft, exact balance. Only in the final song of the double-choir group, "Talismane"—Goethe's poem also provides the text of a Schumann *lied*—was the general want of mature solidity vaguely troublesome.

Of Vaughan Williams' Three Shakespeare Songs, "Full Fathom Five" is a perfect miniature, cogent and sharply imagined as the Vaughan Williams of 1951 was often not. A sweeter, cleaner blend of sustained "strange" chord and swaying repetition would be hard to find. Britten's *Hymn to St. Cecilia* is so popular, so j stly well-loved, that one tends to forget the trickiness of turning certain corners (the twists of the Rossinian fast patter, the care needed for clear, not too emphatic word-placement under the big soprano solo). The last part of the piece, in any case the weakest, was a prey to slightly breathless phrase-ends. The private fantasy, and fleet, secretive lyricism are still irresistible.

MAX LOPPERT

Stratford Ontario 25th season

Previews and schools performances apart, the 25th season of the Stratford Festival at Stratford, Ontario, begins on June 6. There will be seven openings in June—*A Midsummer Night's Dream*, *All's Well that Ends Well* and *Richard III* at the Festival Stage, and *Romeo and Juliet*, Ibsen's *Ghosts*, Strindberg's *Miss Julie* and Molnar's *The Guardsman* at the Avon Stage.

Opening in August at the Festival Stage will be *Much Ado about Nothing* and *As You Like It*, and in September at the Avon Stage, Noël Coward's *Hay Fever*.

Maggie Smith will play in *The Dream*, *Richard III*, *As You Like It* and *Hay Fever*. William Hutt will be seen in *Ghosts*, *All's Well* and *Hay Fever*; Brian Bedford will appear in *Richard III*, *The Guardsman* and *As You Like It*.

Purcell Room

Medieval Ensemble of London

Guillaume de Machaut, Canon of Rheims, died in 1377. For an ecclesiastic, he wrote very few sacred compositions which have been preserved: beside the famous *Notre Dame* Mass and a handful of motets, all the music to be found in the carefully compiled manuscripts of his collected work is secular. It was this part of his music that the Medieval Ensemble of London began to explore in their concert on Saturday; previously they have done valuable work on the post-Machaut, pre-Dufay period, but the extension of their repertoire to include such a major figure as Machaut makes for most satisfying listening, and points up some revealing contrasts.

On his own, Machaut sounds complex, but in the company of his immediate followers, Suzoy and Senleches, he begins to sound like simplicity itself. The flowing lyricism of *Douce Damè* and the virelai *Plus Dure* (both sung with a beautifully rounded, unaffected tone by Timothy Penrose) seem almost nostalgic for an earlier age of French music; while the strict procedures of the motet compositions, such as *Qui es promesses*, combining two texts over an instrumental Tenor, certainly do hark back to the music of the previous century.

Machaut's followers preferred to match the winding rhythmic subtlety of his more adventurous pieces, such as *Phiton le merveilleus serpent*, and the superb ballade which depicts the conflict of body and spirit, *Mes esperis*. Both these were sung with easy, unforced precision by the group's tenor, John Elwes. That his voice is ideal for this music was proved in the even greater complexity of Suzoy's *Pictagoras, Jabol*, and of Senleches's *En attendant*—the latter a piece of the highest expressiveness where intriacacy of detail is subordinated throughout, to beauty of line. Elwes sustained the high range of the piece with an easy lyricism which blended perfectly with the instruments.

Between these highlights of the evening, there were one or two pieces which sounded less than secure, or where as in Machaut's *Maugre mon coer* the instrumentalists had difficulty maintaining exact tuning with the voices. But when on their own, the three skilled players gave displays on their quiet combination of plucked, bowed and blown instruments which were dazzling in an undemonstrative way: never more so than in Machaut's one instrumental piece, the *Hoquetus David*, whose rapid alternations of part-writing appear to the untrained ear impossible to coordinate.

One footnote: how pleasing to see the Purcell Room full for Machaut as well as the Elizabeth Hall full for Byrd and Victoria. Each part of "early music" is now drawing its own, distinctive audience: which is as it should be, for Machaut and Byrd have rather less in common than Mozart and Bartok.

NICHOLAS KENYON

OVERSEAS NEWS

Sadat reveals purchase of 50 Soviet MiG jets

BY JUREK MARTIN, U.S. EDITOR WASHINGTON, Feb. 27.

PRESIDENT ANWAR SADAT of Egypt disclosed to-day that his country either had, or was about to, take delivery of 50 Russian MiG 21 jet fighters.

In an interview on American television recorded last week, President Sadat implied that he had waited at least two years for the Soviet Union to respond to his request for the aircraft and had been advised only on the previous day that the aircraft were arriving.

Noting that the U.S. continued to refuse to sell arms to Egypt, President Sadat declared that he had to diversify the sources of his arms supplies. He said he was willing to go to other markets—in East or West Europe or from the non-aligned countries.

At the same time, he was careful to point out that Egypt's relations with the Soviet Union are still "highly strained." He said that he had himself made the Russians "furious" by his insistence that only the U.S. could bring about a Middle East peace settlement, in spite of the fact that the Soviet Union is a co-chairman of the Geneva Conference.

Perhaps in deference to President Carter's known distaste for the international arms trade, the Egyptian President also said he was willing "to see something done about the level of armaments in the area" if a Middle East settlement could be worked out. He praised Mr. Carter's "great statesmanship" for his refusal to sell the highly destructive "concussion" bombs to Israel.

Mr. Sadat remained optimistic that a settlement was possible. He expressed satisfaction that Israeli political uncertainty had been cleared up by Mr. Yitzhak Rabin's winning his party leadership battle and said that Mr. Yassir Arafat, chairman of the Palestine Liberation Organisation, had agreed, in talks in Cairo last week with the Egyptian Foreign Minister, Ismail Fahmy, that there should be some form of link between the Palestinians and Jordan.

Earlier, however, in another television interview, Mr. Cyrus Vance, the U.S. Secretary of State, had stressed the "long and difficult" road towards a settlement. He pointed out, for example, that as long as the PLO did not recognise Israel's right to exist, "there doesn't seem to be any basis for discussion."

However, Mr. Vance did report that on the basis of his recent tour of the Middle East, he was confident that all the parties in the Middle East wanted to go to Geneva.

● Saudi and Egyptian sources confirmed over the week-end that Saudi Arabia, Kuwait, Qatar and the United Arab Emirates have arranged an aid package for Egypt worth more than $2bn., UPI reports from Cairo.

An Egyptian Government source said the package includes a $1bn. fund and an equal amount in one-year deposits, conditions and interest rates to be settled later. A Saudi source said his Government is seeking to raise further loans from oil-rich Arab countries "to guarantee a stable economic situation in Egypt for at least five years."

Reuter adds: the official Middle East News Agency reported to-day that the International Monetary Fund has agreed to provide Egypt with a $600m. credit facility for the next four years.

Meanwhile in Khartoum to-day, President Sadat started talks with President Jaafar Numeiry of Sudan and President Hafez al Assad of Syria to discuss security of the Red Sea region, the Middle East crisis and strengthening mutual political, military and economic relations.

President Sadat told reporters at the airport that anyone contemplating aggression against Sudan should consider he would be facing Egypt and Syria as well, adding that he and President Assad had together taken the decision to declare war on Israel, the "most serious decision in centuries in the history of the Arab nation."

Ginzburg faces serious charge

By David Satter

MOSCOW, Feb. 27.

IMPRISONED dissident Alexander Ginzburg will be charged with anti-Soviet agitation, which carries a possible sentence of up to ten years in prison, according to Anatoly Shcharansky, a Jewish activist and friend of Mr. Ginzburg.

Mr. Shcharansky told western correspondents that a search or Mr. Ginzburg's apartment in Tarusa, about 75 miles south of Moscow, was authorised in connection with an investigation into charges of anti-Soviet agitation; an apparent indication that Mr. Ginzburg will face political rather than criminal charges.

Mr. Ginzburg was a member of the unofficial dissident committee to monitor Soviet observance of the Helsinki accords and administrator of a fund to aid political prisoners. He was accused in the Soviet press of trading in foreign currency and it had been expected that he would be charged with with some form of economic crime.

Mr. Shcharansky also said that Mikhail Shtern, a Jewish doctor sentenced to eight years in a prison camp after his two sons applied to emigrate to Israel, has been placed in a punishment cell.

This is very dangerous because of his health and age, Shcharansky said. Shtern, who practiced in the Ukraine, is 58 and said to suffer from heart and spine disorders. Mr. Shcharansky said Shtern was being disciplined for sending a letter with information about conditions in his prison camp. His wife Ida, who has moved to Kharkov to be near the camp, has begun a hunger strike to protest the move, Shcharansky said.

Kissinger may have made secret Taiwan agreement

BY OUR OWN CORRESPONDENT WASHINGTON, Feb. 27.

DR. HENRY KISSINGER, the former U.S. Secretary of State, may have concluded an agreement with the late Mao Tse-tung which committed the U.S. to sever relations with Taiwan.

Mr. Cyrus Vance, Dr. Kissinger's successor, did not deny the possibility that such an agreement may have been made and that the Carter Administration is ignorant of its contents when questioned on American television to-day.

The secret agreement was reported to have been struck in 1972 by Dr. Kissinger and President Nixon. The agreement, which was supposed to have been in the form of a secret clause to the Shanghai communique, is reported to have committed the U.S. to break off ties with Taiwan inside two years.

The possibility surfaced in an article written by Mr. Joseph Kraft, the syndicated columnist, who has visited China several times in the last few years. Mr. Kraft wrote that on February 8 the head of the Chinese mission here visited President Carter and asked whether he was aware of the understanding reportedly reached in 1972 by Dr. Kissinger and President Nixon.

Mr. Kraft reported that Mr. Carter replied he was unaware of any secret clauses to the Shanghai communique and ordered a hunt through the relevant documents. To-day Mr. Vance did not deny that the missing pieces had not been found. "If there are any papers we do not have, he said, I am sure we will get them."

Mr. Vance also went to such great lengths to praise the co-operation Dr. Kissinger had provided the transition team and the volume of paperwork the new administration was still grappling with that he left the impression that something might indeed be missing.

There is no special reason to suppose that the People's Republic will try to exert immediate pressure on the Carter administration to break off relations with Taiwan. However, Mr. Kraft reported that China had suggested to the U.S. that the two countries might begin bilateral talks on unresolved financial claims. In return, the U.S. might signal its goodwill by letting the Ambassadorship in Taiwan fall vacant or by reducing the American troop contingent on the island.

Strong Singapore recovery

BY OUR OWN CORRESPONDENT SINGAPORE, Feb. 27.

SINGAPORE'S economy improved markedly in 1976, the gross domestic product showing a real growth of 7 per cent. compared with 4 per cent. in 1975, according to the Finance Ministry's pre-budget survey of the economy. Mr. Hon Sui Sen, the Finance Minister, will present his budget to Parliament to-morrow.

The Ministry attributed the improvement to the increase in international trade following the recovery of the industrialised countries from the severe recession of 1974-75, and to various economic stimulus measures by the Government since 1974, an easier monetary policy and the stimulus provided by higher domestic demand.

At current factor cost, the GDP expanded by 9.6 per cent. over 1975 to S$13.8bn while the Gross National Product grew by 9 per cent. to S$14.4bn.

Singapore's external payments remained in surplus. Capital inflows helped boost the balance of payments to a S$700m. surplus which, in turn, boosted the Republic's foreign exchange reserves by 10 per cent. to S$8.2bn. as at the end of 1976.

Total external trade which declined by 7 per cent. in 1975 recovered strongly, growing by 21 per cent. to S$38.7bn. As a result of a more rapid expansion in exports, Singapore's traditional trade deficit narrowed slightly to S$6.1bn. The Republic's major trading partners continued to be Malaysia, the U.S., Japan, Saudi Arabia, Hong Kong and the EEC.

The battle against inflation appears to have been won — the consumer price index dropped 2 per cent. in 1976 after having risen by 3 per cent. in 1975.

The manufacturing sector again led the economy, its share of the GDP rising to 29 per cent. from 28 per cent. in 1975. This reflected improved demand by the industrialised countries, particularly in the electrical and electronics industry and the petroleum refining industry, both major industries in Singapore.

Spanish farmers' protest spreads

By Roger Matthews MADRID, Feb. 27

MORE THAN 14,000 tract[ors] were parked on main roads [in] Northern Spain to-day as [a] protest by farmers against [the] Government guaranteed pri[ces] for their produce gathe[red] strength and showed signs [of] spreading to other regions.

The protest movement appe[ars] to have been largely spontaneo[us] sparked off by the low prices [for] this year's potato crop, but n[ow] bringing forth the accumula[ted] resentment of the past deca[de] during which investment a[nd] living standards in industr[ial] zones far outstripped those [in] rural areas. The farmers [are] beginning to pose a serious pr[ob]lem for the regime in the run [up] to general elections.

Concessions to the farm[ers] would almost immediately ra[ise] the consumer price index unl[ess] the Government is willing to [put] more strain on the alrea[dy] stretched central budget by of[fer]ing improved subsidies. The [...] per cent. rise in petrol pri[ces] which took effect yesterday, co[m]bined with steeper rises in so[me] industrial fuels, will also af[fect] inflation currently more than [...] per cent.

Farmers at mass meetings [in] the north this week-end vo[ted] to continue the stoppages [and] supported demands for an in[ter]view with Sen. Adolfo Sua[rez] the Prime Minister. Prot[est] meetings were also held [this] week-end in the southern reg[ion] of Andalucia, where agricultu[ral] income levels and unempl[oy]ment are more serious than in the relatively better central northern region.

Despite a Government ple[dge] to consider introducing a [more] generous political amnesty, [a] fresh campaign for the rele[ase] of prisoners has started in [the] Basque provinces.

Israeli army ousts settlers from West Bank site

BY OUR OWN CORRESPONDENT

MASHA (WEST BANK) Feb. 27.

AN ATTEMPT by 40 members of the Gush Emunim movement to establish a settlement without Government permission at this abandoned West Bank police station, some eight kilometres east of the former Israel-Jordan border, ended at lunchtime to-day when the army ordered the settlers to leave the site.

Early this morning Gush Emunim's west Shomron group moved on to the site with truckloads of building materials. They immediately started repairing the old police station and preparing it for occupation by ten families. The military authorities surrounded the site, but did not interfere with early work.

Close to noon four helicopters loaded with soldiers landed at the site, and the local military commander ordered the settlers to leave. They left without resistance, but said they hoped to return with Government permission.

Gush Emunim, an organisation of mainly religious Jews who believe in the right of the Jews to settle in all parts of what they regard as the Jewish homeland, have had most of their earlier attempts to settle in places ruled out of bounds by the Government. At Kaddum, however, their settlement still exists more than a year after a Cabinet decision not to permit them to settle there.

The Gush Emunim movement intends to hold a mass rally on Tuesday to whip up public support for more settlements in the occupied areas. It is felt in some circles here that to-day's settlement attempt was devised mainly as a publicity stunt to draw attention to the movement on the eve of the rally.

Lebanon considers UN troops

BY IHSAN HIJAZI BEIRUT, Feb. 27.

THE LEBANESE Government is reported to be considering a proposal for stationing United Nations forces in south Lebanon near the border with Israel in an effort to check the heightening tension there.

The proposal was first made by former President Camille Chamoun, the leader of the National Liberal Party, to President Elias Sarkis.

Mr. Chamoun is expected to make the proposal public soon on behalf of the right-wing Lebanese Front which groups him with other prominent Christian leaders, notably Mr. Pierre Gemayel, the head of the Phalange party, and ex-President Suleiman Franjieh.

Mr. Chamoun was reported to have proposed complete disarmament of rival factions in the south along with stationing of UN troops there.

In the past ten days, right-wing forces of the Lebanese Front have been on the offensive in the border area against Palestinian commandos and their Lebanese left-wing allies.

The Front were reported to be pressing for the occupation of Bint Jebeil, a main town about six miles from the Israeli border. The town is under the control of the Palestinian and and left-wing forces.

With thousands of displaced persons, victims of the recent civil war, still waiting to be repatriated to their original homes, the south has become an urgent issue. President Sarkis intends to consult with other Arab heads of state before taking a decision on inviting UN forces to South Lebanon. Arab leaders are scheduled to gather in Cairo on March 7 for the Afro-Arab summit conference.

Mr. Sarkis met for three hours on Friday night with Mr. Yassir Arafat, chairman of the Palestine Liberation Organisation, to talk over the Southern Lebanon.

Strong Israeli warnings have so far prevented Mr. Sarkis from dispatching Syrian troops of the Arab peace-keeping force to the south.

Our Tel-Aviv correspondent reports: Israel is unenthusiastic about the proposal to invite the UN to send a police force to the Lebanese-Israel border. Officials here were also sceptical about reports the PLO has agreed to withdraw its forces from the southern Lebanese regions bordering Israel.

The Israel army spokesman claimed at the week-end that there were now 3,500 Palestinian fighters in the region.

Officials in Jerusalem said that the problem of southern Lebanon is an internal Lebanese problem and the Lebanese must assert their authority there, rather than relying on the UN.

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WORLD TRADE NEWS

U.K. takes 30% of Norwegian exports

Financial Times Reporter

THE U.K. absorbed nearly 30 per cent. of Norway's total exports in 1976, compared with ...er cent. in 1972 and thus ... an outstanding role in the ...wegian economy, according ...r. Gunnar Rogstad, Director ...ral of the Export Council ...orway, who is currently in ...U.K.—Norway's most impor... export market. He points ...hat at Kr.12.7bn. (£1.4bn.), ... imports from Norway were ...r cent. higher than in 1975, ... were in turn 55 per cent. ... 1974.

...his sharp increase must be ...ly ascribed to the explosive ...h of oil exports," he said, ... the traditional sectors are ...portant as ever." In 1976, ... exports to the U.K. in... ...d by 11 per cent., regain... ...e ground lost in 1975.

...gricultural ...les up 17%

Financial Times Reporter

...AIN EXPORTED £1.52bn ... of livestock, agricultural ...nery and equipment, ...cals, animal feeds and pro... last year. This was an ...rement of 17 per cent. ...975. Machinery sales were ...7 per cent. to £628m., ...cals and feeds exports ...1.5 per cent. to £172m. and ...e sales increased 13.4 per ... £497.3m.

... does not include export ...gs from invisible trade ... includes consultancy, ...ement, technical expertise ...censing agreements. No ... figures for these are ...le but they are estimated ...veral hundred million

JAPAN'S EXPORT DIPLOMACY

Talking one game . . . . . . playing another

BY DOUGLAS RAMSEY

TOKYO, Feb. 27.

THE CONCLUDING chapter of JETRO's latest monthly magazine—suggestions on how to break into the Japanese market, is about exports—from overseas to Japan, not vice versa, and the title sums up sufficiently the dramatic shift in Japan's export diplomacy since the early days of the Japan External Trade Organisation when the E stood for exports and not external.

But there is still a lot of export promotion going on. Tokyo decided a decade ago to divorce its export effort from the diplomatic one overseas. To-day, the divorce is almost complete. JETRO has over 150 people working abroad at the organisation's 46 offices and 24 Japan trade centres, *all of them operating* apart from Japan's diplomatic representations. *In 1977*, the network is still expanding, with plans to open a Quito, Ecuador, *office and expand the Nairobi* operation into a full-fledged trade centre.

Vocal

Moreover, JETRO already operates 25 offices jointly with private industry, and is adding four new ones to the list in 1977. A joint London venture with the Petroleum Association of Japan, and participation in existing offices of the Japan Machine Tool Trade Association in Dusseldorf, Chicago and Vienna.

Japanese officials are extremely vocal these days about JETRO efforts to improve knowledge overseas about the Japanese market. There are at least 45 publications now available on the subject (from the newly revised "Japan as an export market" to more specialised items on the golf equipment, detergent and other such markets). But since JETRO is expanding its overseas "monitoring" service to detect major complaints against Japanese exports (from 11 to 13 offices) and not planning to spend much more this year than last on import promotion, the authorities come under some suspicion that they are talking one game and playing another.

Soft-pedalling

The Finance Ministry, after all, has approved a 3.5 per cent. increase in JETRO's budget for fiscal 1977 (starting April 1) to a total Yen9.5bn. ($33.2m.) and the biggest increases were typically (a) to bolster trade with developing countries, up 10.5 per cent.; and (b) to *provide information to Japanese* business on overseas economies, up 10 per cent.

In fact, although JETRO is soft-pedalling its exports in *Europe and the U.S. (because its* exporters have been too successful), the organisation is taking the opportunity to detect new markets and develop plant exports, *especially to the Middle* East. But JETRO cannot do the job alone. A crucial role is played by the Export-Import Bank of Japan which has grown tremendously *in recent years to* meet the increased demand for big project financing.

In fiscal 1976, for instance, the Ex-Im Bank spent 30 per cent. more on export financing to about $1.9bn. than it had the year before. In 1977, the Government is planning for a 10 to 20 per cent. increase in export financing by the Ex-Im Bank, with a lot more for capital goods and plant exports and proportionately less for ship exports on deferred payments (in line with Tokyo's recent promises to control the level of its ship exports).

But the advantage of the bank, *aided by JETRO, is that it can* respond quickly to any major increase in overseas demand for buyer credit. Thus, late last summer the Ex-Im Bank asked and got an 80 per cent. increase in its export financing appropriations because of the phenomenal rise in buyer credit applications compared with those projected in *the original 1976 budget. And* Japan's extra $4bn. plant exports this year over last have something to do with the country's overall and massive $9bn *trade surplus.*

Together, JETRO and the Ex-Im Bank represent most of Japan's official, direct expenditure on boosting exports. Tech*nicians will argue that the "pro*motion" component is very small ($33.2m.); which is true, but the supporting funds for financing exports are probably *more accurate indicators of just* how aggressive Japan's informal export diplomacy is from one year to the next.

Confidence

Obviously, Japan's decision to separate its diplomatic from its trade missions overseas has borne fruit, and it is a telling observation that Japan carried the (originally) British concept of a foreign trade organisation to its logical conclusion, whereas the U.K. decided early on to abandon its efforts in the field and merge them again into the foreign office's operations overseas.

The semi-official nature of JETRO, moreover, has provided an added measure of confidence to the private sector, both in Japan (by co-operating with the big trading companies abroad) and overseas (by providing a business partner rather than a diplomat to do business with).

Hungarian currency proposals

By David Lascelles

A LEADING Comecon banker has called for a new world money *system based on gold in which* both Communist and non-Communist countries could participate. He believes it would bring order to the international monetary *system and help stimulate* the world economy.

The call is made by Mr. Janos Fekete, vice-president of the Hungarian National Bank, one *of East Europe's best-known* bankers and a man widely respected in Western banking circles.

Writing in the Hungarian *weekly Figyelö, Mr. Fekete says* that the election of a new U.S. President provides the opportunity for a revival of the Bretton Woods spirit which led to the *creation of an international* monetary system.

He proposes that East and West get together to create a new international standard of value which would fulfil the role of a key currency in the international monetary system.

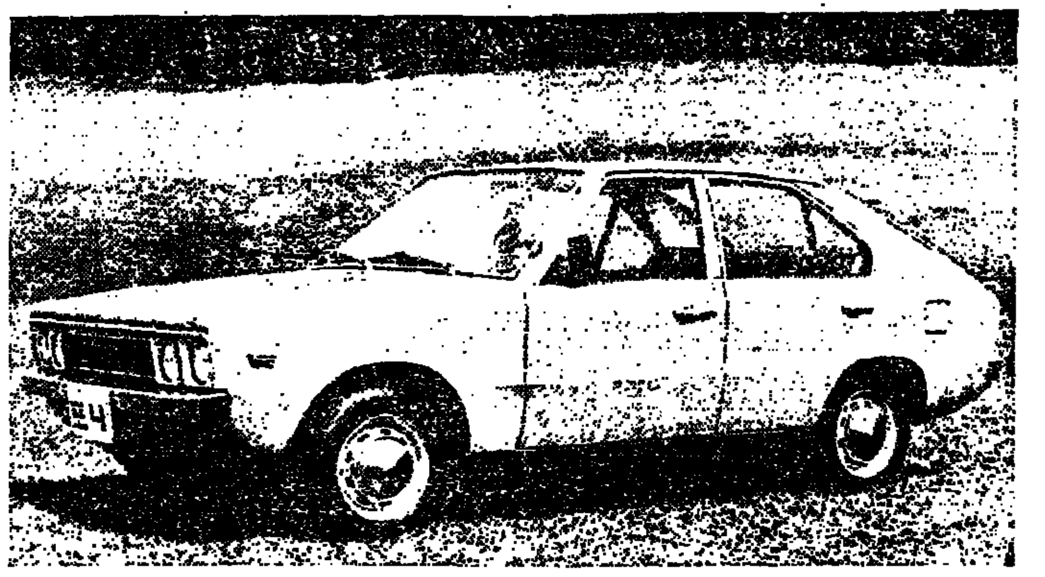
Prices may fall

Financial Times Reporter

BRITISH *imports from Portugal* which could fall in price as a result of the 15 per cent. devaluation of the escudo, include textiles, timber and *pulp, and electrical equipment.*

Last year the U.K. imported textile yarn, fabrics and related products worth nearly £50m., while imports of clothing and other fabrics *amounted to more* than £25m.

Pulp and waste paper imports amounted to around nearly £20m. and timber and cork to about £15m., *while electrical equipment* valued at around £10m. was imported.



South Korean car challenge

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

A NEW Far Eastern challenge *to the European car manufac*turers will be launched next month by Hyundai Motor, the South Korean company which has been established over the past three years by Mr. George *Turnbull, the former managing* director of British Leyland's now defunct Austin-Morris division.

Hyundai will be displaying its new car, Italian-designed Pony, at the Geneva Show in mid-March. It is then planned to introduce limited quantities of the vehicle to the Scandinavian and Benelux markets, with Switzerland and the U.K. to follow "in due course."

There is some surprise in the European industry. Hyundai is looking for exports to such a *sophisticated market only a year* after its South Korean factory came on stream.

Mr. Turnbull is known to have opposed this approach on the *grounds that it would have been* better to establish the car first on the domestic market and in countries geographically closer to the manufacturing base.

But with Mr. Turnbull leaving the company next month on completion of his three-year contract, the Hyundai Group officials who have been eager to follow the Japanese example overseas appear to have won the point.

In the immediate future the Pony is unlikely to pose a great threat to Europe. Production volumes of the car are small—the South Korean factory is at present only utilising about half of its 56,000 units capacity—and the company has indicated that only some 10,000 cars will be exported next year.

Since Hyundai has already begun exporting to Africa, some Central and South American markets, as well as the Arab world, *its cars are spread very* thinly at present.

At the same time, the emphasis that the Hyundai Group has been placing recently on its heavy machinery interests suggests that the car company will not be in a position to begin big volume exports before the 1980s.

Sharp fall in oil demand this year

BY OUR FOREIGN STAFF

THE rise in demand for oil *experienced by the Organisation* of Petroleum Exporting Countries (OPEC) towards the end of last year fell sharply in January.

With the end of stockpiling before the increase on January 1 total OPEC output fell by almost 5.8m. barrels daily from the *December level to total 28.6m* in January, according to Petroleum Intelligence Weekly. This was the lowest since February last year though still up *7.1 per cent from January 1976.*

The news coincides with the two-day meeting of Finance Ministers from OPEC to-morrow in Vienna for the allocation of nearly $1bn. in development aid funds.

The funds will be used to help cushion the effects of higher oil prices on the financially hard-pressed Third World.

OPEC officials in the Austrian capital said the Finance Ministers would probably allocate petrodollar funds for individual developing countries, for specific quick-action projects, and for price supports to help ailing economies "they will be *talking only about aid, not about* oil prices," OPEC spokesman Hamid Zaheri said.

Virtually the entire fall in OPEC production was in the Middle East following the dual-price split. Saudi Arabia and the United Arab Emirates insistence on a lower price rise of 5 per cent. contributed to the *fall in those states which opted* for a price rise of 10 per cent. Output in Iran, Iraq, and Kuwait dropped a total of 4.9m. barrels daily, according to PIW, and *Saudi Arabia's also declined* due to bad weather, slipping an estimated 678,000 barrels daily to about 8.5m. barrels daily, including the neutral zone.

For OPEC members outside the Mideast however the picture was sharply different. Low Sulphur African crude pro*ducers were unaffected by the* drop in demand for other oils, while freezing weather in Japan and the U.S. helped Indonesia and Venezuela. Indonesia edged up to another record high.

U.S. dependence on Arab crude oil nearly doubled last year as total U.S. crude imports climbed *29 per cent. to 5.3m.* barrels daily. The volume from Arab states jumped 83 per cent. to 2.4m. or 46 per cent of the total.

That is up from 33 per cent. in *1975 and more than triple the* volume in 1973, when Arab oil accounted for only 21 per cent. (or 734,000 barrels daily) of imports.

Broken down geographically, imports from the Mideast climbed most dramatically. They rose 65 per cent.

India sets export target

BY K. K. SHARMA

CALCUTTA, Feb. 27.

INDIA PLANS to export 2m. tonnes of coal during 1977-78. The same target was set in 1976-1977 but port bottlenecks prevented it being reached, despite the active interest shown in Indian coal by leading industrial nations such as Japan, France and Belgium, while Italy and Pakistan are now substantial new customers.

Chairman of Coal India Lieutenant-General K. S. Garewal is very hopeful that the next financial years' target will be realised in view of the additional handling capacity of 3.5m. tonnes which the commissioning of the Haldia Docks will soon provide. With Haldia, the coal handling facilities in Eastern India alone will rise to 5.5m. tonnes per year. Haldia will also accommodate bigger bulk carriers.

Among the qualities of Indian coal which are attractive to the pollution-conscious countries is its low sulphur and low alkali content which means that apart from being a non-pollutant Indian coal does not cause "bonded deposits" in boilers and furnaces.

According to General Garewal Coal India aims to raise its exports progressively to a level of 5m. tonnes in the next three to four years.

World Economic Indicators

INDUSTRIAL PRODUCTION 1970=100

					% change on year
	Jan. '77	Dec. '76	Nov. '76	Jan. '76	
U.S.	131.5	132.8	131.7	125.7	+ 4.6
	Dec. '76	Nov. '76	Oct. '76	Dec. '75	
U.K.	102.8	103.1	102.8	98.8	+ 4.0
Holland	121.0	124.0	127.0	117.0	+ 3.4
W. Germany	111.8	123.9	119.3	109.5	+ 2.1
Italy	129.8	130.6	135.1	105.8	+22.7
France	124.0	126.0	123.0	117.0	+ 6.0
	Nov. '76	Oct. '76	Sept. '76	Nov. '75	
Belgium	126.0	127.1	124.4	118.0	+ 6.8
	Oct. '76	Sept. '76	Aug. '76	Oct. '75	
Japan	125.4	125.5	126.0	112.4	+11.6

Building and Civil Engineering

£23m. Saudi Arabia project

BRITISH consultants have been engaged to carry out a major development study covering a large part of Saudi Arabia. Cost of the study, including sub-contracts, will be about £23m.

The contract is between the Saudi Ministry of Agriculture, and Water and Groundwater Development Consultants (International), a company formed jointly by Hunting Technical Services and Sir M. MacDonald and Partners.

The assignment is expected to take 3½ years to complete and will involve over 50 expatriate specialist staff plus a further similar number in sub-contract activities and some 37 additional staff in administrative and supporting roles.

Object of the task, to be known as the Umm er Radhuma study, is to evaluate the water resources of a large aquifer and the potential for development of irrigated agriculture throughout the Eastern Region of the Kingdom, an area of 350,000 square kilometres (135,000 square miles) which is larger than the land area of the British Isles including the Irish Republic.

The existence of sub-surface water (groundwater) is the key to the development of this arid area where rainfall is almost non-existent and where temperatures can exceed 40 degrees C. Substantial quantities of water are known to be held in a thick belt of limestone (the Umm er Radhuma aquifer) which underlies the region and the determination of quantity and quality of the water which can be extracted from it will be one of the main aspects of the study.

At the same time as the groundwater sources are being studied, the land resource evaluation will be carried out which will cover the properties of the soils of the area and their ability to support irrigated agriculture.

The studies will initially range over the whole 350,000 square km. project area from which some 15,000 sq. km. will be selected for closer study leading later to development projects totalling about 500 sq. km. which will receive more detailed investigation and planning studies. This will be followed by the preparation of designs and tender documents for consortium contracts.

Once it is clear where agricultural development is most promising, the consultants will plan two 100 hectare (250 acre) pilot farms for testing various methods of agricultural production.

Moorings for supply boats

THE FIRST major order to be won since the recent formation of Press Imodoc Offshore Terminals by William Press and Imodoc Inc. is for supply boat bow moorings systems to be used in Chevron Petroleum's Ninian Field developments.

The contract is worth £1m. and is for four of the moorings each of which is designed for a maximum force of 180 tons and comprises a ballasted base *having a chain riser linked with* the mooring buoy.

Fabrication will be at the Howdon Yard of William Press on Tyneside.

Three jobs for Wimpey

A £3.4m. shopping complex for Federated Homes at Hempstead Valley, Gillingham, Kent is to be built by Wimpey.

This contract is part of a plan for comprehensive development of the Hempstead Valley area where Wimpey is building the first phase of a big private housing scheme, the Beechwood Estate. Architects are Stanley Bragg and Associates.

Across the border, in Surrey, Wimpey has won another contract for the construction of an agricultural research facility at Windlesham, Surrey. Value of this is £¾m.

Situated at Erl Wood Manor, the project comprises a rectangular brick and steel building, 47 metres by 23 metres by 5 metres (high) with a steel roof and two first floor plant rooms, external services, roads and paths. Architects are Morgan, Branch, Roberts.

A third job for Wimpey is a three-storey office building with a central courtyard at the junction of Headstone Drive and Rokeby Road, Harrow, for Kodak.

The building has been designed by G. C. Knight, chief architect to Kodak and the contract is valued at £767,000.

Breweries work for Cubitts

TWO BREWERIES have engaged Holland, Hannen and Cubitts (Northern) for construction work in the north west under contracts totalling £2.2m.

At Risley in Cheshire, Cubitts will build a distribution depot for Allied Breweries (U.K.). This contract worth £1.7m. involves the construction of a single-storey office block and canteen and a single-storey 10,000 square metre warehouse and loading bay. The project, which includes roadways, parking areas, a vehicle maintenance depot and ancillary works, is scheduled for completion towards the end of the year.

The other contract, valued at £500,000, is from Whitbread and Company, for extensions to its lager brewery at Samlesbury near Blackburn.

Minerals in the Yemen

COPPER, and heavy beach sands *containing rutile, zircon and* ilmenite are the target for a £1m. extension for one year of a Hunting Geology and Geophysics mineral search contract with the Yemen.

Awarded by the Board of Petroleum and Minerals, it involves drilling in the copper areas defined during earlier surveys as well as the collection of bulk samples of various types of beach sands from interesting deposits. General sampling will be continued in order to make reserve figures more solid.

The company has set up laboratories at Mukalla and has trained Yemeni staff in the necessary techniques.

New concrete vibrators

TWO NEW models have been added to the CEL Drum series of vibrating concrete equipment—a double-poker, diesel-powered version, said to increase productivity on suitable sites by about a third without any increase in fuel consumption; and a compact, electrically-powered unit for greater convenience, less noise and cleaner operation on sites where an AC mains supply is available.

The Drum Major vibrator unit, powered by a Petter AA1 diesel, can run two of any of the CEL 25 to 60 mm pokers, each on a 6 metre flexible drive shaft. It is contained in a box-type, protective carrying frame with tubular steel handles. There are twin-claw couplings for the drive shafts.

The electrically powered Drumbeat motor unit weighs 66 lbs, and produces 1½ hp on single or 2 hp on three-phase supply. It can drive pokers up to the 60mm size. There is a choice of square-end or twin-claw couplings.

For vibrating pokers used in conjunction with expensive shuttering which might be damaged by conventional all-steel pokers the company supplies rubber-covered nose caps.

More from Newman Industrial Controls, Upper Mills Industrial Estate, Stonehouse, Glos., (045382 3771).

British Rail contract

MEARS Construction has won a £230,394 contract for the construction of a cleaning and servicing depot at Kirkdale, Liverpool, for British Rail.

The contract calls for a single storey shed, 133 by 20 by 9 metres high, with reinforced concrete foundations, in-situ concrete paving, steel frame, external brick walls and asbestos cement roof decking and vertical cladding.

Two awards to Tarmac

ABOUT £2M.-WORTH of work on a new brewery complex, adjacent to the M4 at Reading is to be undertaken by Tarmac Construction.

John Laing Construction, management contractor employed by Courage Brewing, has awarded contracts to Tarmac, as sub-contractors, for site works to the value of £1.2m. and sub-structure work worth £860,000.

The 35-week site work contract involves excavating, filling, culverts, drains and ducts, roads and hard standings while the sub-structure contract will involve pile caps, ground beams and ground slabs, stanchion bases and tank pads.

Wharves in the Gulf

TWO CONTRACTS in the Gulf, each worth about £1m., have been awarded to Howard Algeemi Construction Company of Abu Dhabi, an associate of John Howard and Co. International.

One of the contracts has already been started and calls for the design and construction of a 300 metre wharf in connection with the development of Umm Al Qawain creek. The new wharf with a dredged depth of 7.5 metres, will be of sheet piled construction and involve reclamation, paving and the provision of essential services.

The second contract was awarded by the Office of Military Works, Abu Dhabi and is for the construction of a sheet piled wharf 435 metres long to form an extension to the Naval Force jetty. Some dredging works is included together with paving and the provision of all the usual services.

Insulation panels

A LIGHTWEIGHT, easily-fitted insulation panel for use in new and existing industrial buildings, has been developed by Fibreglass, St. Helens, Merseyside, WA10 3TR (0744 24022), a Pilkington Group company.

Called Factoryliner, it is an integral, rigid, stable Fibreglass Crown slab faced with white pvc, and is specifically designed for use in under-purlin linings, suspended ceilings and sheeted walls.

It can be used in existing buildings which cannot bear the weight of a conventional lining system and gives a thermal performance up to 11 per cent. better than conventional underlinings, claims the maker.

Noise reverberation is reduced because of the absorbent nature of the panels, and the non-combustible glass fibre board, together with the Class 1 surface spread of flame of the facing, lessens the fire hazard.

Light reflection within the building is enhanced by the white surface of the boards, which can be cleaned with soap or detergent.

Panels can be easily handled by one man, and quickly cut to size with a long-bladed knife. The boards are sufficiently flexible for fitting in difficult areas. They are fixed in position by thick board clips in a suspension grid system composed of galvanised wedge slot tee sections.

Nominal thickness is 50 or 75 mm—the first weighs 2 kg/sq. metre, and the second 2.9 kg/sq. metre. The boards are 1,800 or 1,200 mm long by 600 mm wide.

Homes for export

A PERMANENT housing system called Hallmark developed for export markets and especially for the Middle East has just been introduced by Austin-Hall Building Systems (Paddock Wood), a Rentos Group company.

To be produced initially in single-storey form, the homes will be available in four standard sizes ranging from 149 square metres (four bedrooms) to 58 square metres (one bedroom). They will be mainly of timber and steel construction and will incorporate all-round overhang roofs to reduce sun glare.

A complete four-bedroom home ready for occupation will cost between £30,000 and £35,000 and a one-bedroom version between £20,000 and £25,000. Prices include furnishing and all fittings, but exclude preparation of the concrete foundation raft which will be carried out by local work forces.

Keeping the Thames on course

WESTMINSTER Dredging C... pany has been awa... another contract—worth ... than £1m.—to continue its ... in strengthening tidal defe... along the River Thames.

The latest contract, awa... by the Southern W... Authority, is for the construc... of a 2.2 km long permeable b... and clay cut-off from Sh... Mead Fort to Higham, Kent.

The company, a member of Bos Kalis Westminster Grou... already involved in similar w... along a two-kilometre str... east of Gravesend Isola... Hospital to Shorne Mead F... The contracts are both part ... a scheme to strengthen ... increase the height of the riv... tidal defences along a 40... stretch from Dartford Creek ... North Grain.

Good start for new enterprise

A £½m. contract for alterati... at the San Fernando premises ... the Bank of Nova Scotia Trini... and Tobago has been awarded ... Engineering Enterprises.

The latter is a newly-for... joint venture company formed ... Higgs and Hill with l... partners in Trinidad. Head of... is in Port of Spain.

Architects for the ... Fernando job are Watt... Phillips Bynoe and Partners.

£2.8m. hotel extension in Bahrain

CEMENTATION Internatio... has won a contract worth £2... to build a 110-bedroom ext... sion to the Bahrain Hilton. W... will start in March.

The extension will compr... an "L" shaped three-sto... building to the south... side of the existing ... with balconies overlooking ... pool. This will increase ... capacity of the hotel to 340 gu... rooms and suites. It ... provide a health club, ... sauna complex as well as ... tending the present coffee sh...

A further extension in ... form of a seven-storey to... block to the southern end ... the present hotel together w... the provision of a night c... and shopping arcade is now ... ing negotiated and this ... increase the capacity to ... rooms and suites.

Big schemes to Barwick

THE GREATER part of the £1.1m. worth of jobs secured by R. J. Barwick and Sons of Dover is for a big new reception building to be constructed for the Dover Harbour Board at East Docks.

The £623,557 contract calls for a seven-storey building with a reinforced concrete frame and reinforced concrete floors, roof and staircase. Foundations will be piled with reinforced concrete ground beams.

Floor area will be close on 20,000 square feet.

For the Royal British Legion Housing Association, Barwick will be building sheltered housing for the elderly to a contract value of £438,388. It covers a total of 56 flats of various types.

Speeds the fitting-out

BUILT-IN furniture for bedrooms in new or renovation housing schemes, hotels, hostels and old people's accommodation, shows an increasing demand, which has encouraged Thames Plywood Manufacturers to introduce a range of fitments.

These consist of a standard range of units, supplied in knock-down form, which have considerable dimensional flexibility to suit most design situations, says the company. Units are available in white melamine finish or match veneered in sapele or teak with a high-quality factory finish. Units can be produced to meet specifiers' requirements.

Installation is said to be simple and speedy—a service is provided by the maker in London and the Home Counties.

More from Thames Plywood Manufacturers, Harts Lane, Barking, Essex IG11 8NB (01-594 5511).

Factory and warehouse awards

NEW construction work worth over £700,000 is being undertaken by FPA Finnegan, main building subsidiary of the FPA Construction Group.

The biggest job is a warehouse for Thorn Domestic Appliances at Stechford, Birmingham. Other projects include a 1,350 square metres factory unit at Roundhay Road, Leeds, for the English Industrial Estates Corporation and four factory units on two sites at Grimsby.

IN BRIEF

- British Fairwall of Wembley, Middlesex, has obtained orders for the supply and installation of its Fairwall and Glidewall sliding walls at the Okoume Palace Hotel, Libreville, Gabon, The Royal Gardens Hotel, Tehran The Holiday Inn, Islamabad, Pakistan and The Chicago Beach Hotel, Dubai. The contracts are worth over £100,000.

HOME NEWS

Smoking controls sought by MP

BY STUART ALEXANDER

R. ROGER SIMS, Tory MP for isleburst, is to introduce a ivate members Bill on Friday control smoking in places of blic entertainment.

The Bill, which will get a aring only if there is sufficient rliamentary time, requires provision of areas for non-okers in cinemas, theatres d concert halls. In instances proprietors defying the Bill, Secretary for Health and ial Security would have tutory powers to order the vision of these areas and to ignate other areas for okers.

n the event of contravention Bill recommends fines of up £500. Titled the Clean Air aces of Entertainment) Act. provisions would not extend Northern Ireland.

o small

Mr. Sims said that the Bill did seek to ban smoking entirely ublic places of entertainment that the discretionary ers which would be accorded he Secretary of State recog-d that some places were too ll to be divided.

Under half the adult popula-smoke and I have no wish prevent those who enjoy a rette or cigar from having a ke, but people who want to d an evening in the cinema, tre or concert hall should be to do so without the discom-of having to breathe other le's smoke," Mr. Sims said.

limited survey carried out ondon over the last three ths by Action on Smoking Health on smoking in nas has shown that most ers and non-smokers ap-e of a ban in cinemas.

three-month experimental was imposed at the Paris nan cinema in London's sea and the movement s that 98 per cent of non-ers questioned and 69 per of smokers favoured some of restriction.

One national Co-op federation proposed

BY ELINOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

THE FRAGMENTED structure of the Co-operative movement is preventing it from competing effectively with modern retail groups, according to a new report produced by leading members of the Co-op.

A corporate strategy for the future is essential if the movement is to make real progress, the report says.

One single national federation should be established to give the movement real leadership, and co-ordinate its activities.

The report, produced by the Co-op's national working party, has been sent to members of the special committee, which was asked two years ago to study the idea of replacing the Co-operative Wholesale Society and the Co-operative Union with a new single organisation.

The CWS is responsible for the Co-op's commercial activities, acting as a central—but not exclusive—manufacturer and wholesaler. The Co-operative Union is the movement's central co-ordinating body, dealing with general policy matters and member activities, such as the annual Congress—the movement's "parliament"—of delegates from retail societies round the country.

But the working party notes that these two functions can no longer be described as separate and distinct.

In the group's view, the present parallelism in the national structure is "deficient." It had led to indecisiveness in decision making.

The working party, designed to act as a ginger group within the movement, acknowledges that the Co-op has improved its trading record over the past few years. Yet its problems had not yet been solved; "Because of our pragmatic approach we have failed to frame a corporate strategy of advance."

Such an approach was however essential. The concentration of ownership in British retailing, and the consequential changes in the character of competition were increasingly exposing the structural weaknesses of the movement.

The need was for a leader in which authority was to be vested. A single federation must therefore be established — "one that will command authority and respect and give the kind of leadership which will achieve the co-ordinated drive the movement needs."

The special committee is expected to produce its report on the subject soon and the issue is likely to figure high on the agenda of the Co-op Congress in May.

Wives buy fewer potatoes, less beef as prices rise

HOUSEWIVES bought less beef and potatoes last year because of inflation, writes Elinor Goodman.

Results of the National Food Survey on household consumption for the fourth quarter of last year show that average expenditure on food was 16.5 per cent. up on the same period in 1975.

Had the families continued to buy the same food as they did in 1975, they would have had to spend about 19.5 per cent. more.

But with potato prices high in the last three months of last year, families bought less of them.

Household consumption of potatoes in the past quarter averaged 40 ozs a person against the more usual seasonal level of 3 lbs.

Households also cut purchases of beef and bacon. As a result, the consumption of bacon fell to its lowest level since 1951.

While the average amount spent on food for consumption at home rose by 3.8 per cent., those with freezers reduced weekly outlay by 4 per cent. between the third and fourth quarters.

In households without freezers, expenditure rose by 7.5 per cent. This represented an increase of about 2 per cent. in the real value of their average food purchases rose in price by just over 5 per cent.

Owners of home freezers spent 14 per cent. more on food in the last three months of last year than they had in the same period in 1975, while other households had increased their spending by 17.9 per cent.

In spite of the 1p increase on a pint of milk in September, milk consumption in the fourth quarter remained at about the 1975 level.

Although consumption of butter, margarine, cooking fats and cooking oils increased compared with the previous three months, in total the average of 11.4 ounces a week was nearly 3 per cent. lower than in the fourth quarter of 1975.

As a result of a switch from butter to margarine throughout last year, sales of soft margarines moved ahead of other margarines.

There was a further fall in egg consumption while household purchases of sugar continued to be well below the averages recorded before the 1974 shortage.

Purchases of tea dropped sharply in the fourth quarter in the face of steep price rises. Purchases of coffee, on the other hand, rose to a record level, possibly in anticipation of further price rises.

Stuart Alexander writes: A fall of 1.8 per cent. in U.K. food consumption this year is forecast to-day by Economic Models. The group also expects that food prices will rise 20 per cent. this year and the first half of 1978.

The group also predicts that, in the event of no duty increases, the prices of wines will rise by 12 per cent. and spirits by 10 per cent. and that sales will fall by 12 per cent. and 22 per cent. respectively. And given normal weather beer sales would fall by nearly 3 per cent.

Tobacco sales are expected to fall by 3.6 per cent. as a steady decline, depressed purchasing power and a further health scare following the expected Royal College of Physicians report take effect.

Levy threatens £8m. syrup plant

BY MICHAEL THOMPSON-NOEL

MOVES BY the European Commission in Brussels to impose a £56-a-tonne levy on the production of high fructose syrups from starch were described last night as frightening by Mr. Bernard Smartt, managing director of Tunnel Refineries.

His company has spent £8m. over the past two years on a new sugar plant at Greenwich designed to produce fructose syrups, called isomerose, from starchy materials such as maize and potatoes.

The plant, which would provide 60 jobs and is due to begin production on March 25, would have no future if the EEC isomerose tax were adopted.

Mr. Smartt said last night that the proposed levy raised two main issues. First, it could stifle the European isomerose industry in its infancy and help contribute to higher food prices.

Second, it would raise serious questions about the fairness of the rules of the Common Agricultural Policy.

Isomerose, a liquid, is used in the manufacture of soft drinks, confectionery and sweet foods such as jams.

Whereas ordinary white sugar sells in the U.K. at around £215 a tonne, the prevailing equivalent price for isomerose is £206 a tonne.

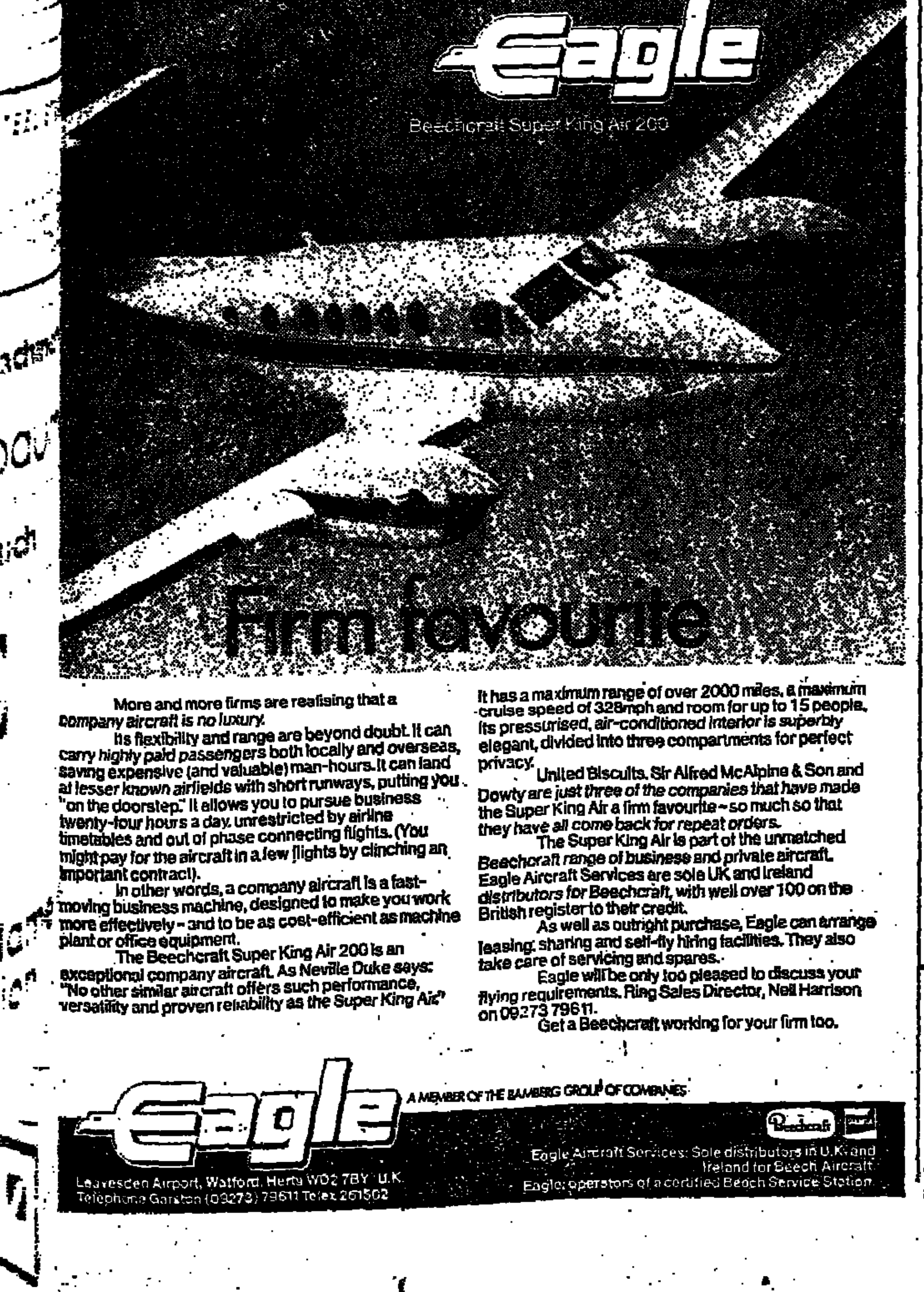
The proposed levy, introduced by the European Commission two weeks ago in its 1977 farm price proposals, would push the cost of isomerose to £262 a tonne.

Plans for the levy are seen as the result of pressure from the powerful European sugar beet lobby which has pointed to the spectre of a 3m.-tonne European white sugar mountain by 1978 and has persuaded the Commission that there are plans for 1.5m. tonnes of isomerose capacity in Europe before 1980.

Mr. Smartt said last night: "The true situation is that European output last year was only 70,000 tonnes and that even by next year, adding in other new capacity planned in Holland and Belgium, production will be less than 400,000 tonnes. Our Greenwich plant is intended to produce 35,000 tonnes."

In the U.S., which pioneered isomerose technology, fructose syrups have now captured an estimated 20 per cent. of the total sweetener market.

"What worries me most," said Mr. Smartt, "is that the new tax could be accepted by Ministers as a bargaining counter in some all-night Council session without anyone properly understanding the consumer interest."



Price up for milk bottle tops

BY RHYS DAVID

THE BIG aluminium producers have raised the price at which they will buy aluminium household waste, mainly milk-bottle tops and pie trays, to stimulate reclamation of valuable raw materials.

Alcan Enfield Alloys, jointly controlled by Alcan and Enfield Rolling Mills, will increase its price from 7p to 10p a lb. from March 1, on collections of 500 lb. or more, closely following a rise by International Alloys.

This company, a subsidiary of Alcoa, said this month that its price for up to 100 lb. from charities and similar organisations would go up to 10p, and for larger quantities to 12½p.

The U.K. produces more than 200,000 tonnes of aluminium a year from reclaimed metal, mostly from factory arisings and break-up of aircraft, motor vehicles, buildings and other things where a lot of aluminium is used.

Secondary aluminium from scrap is about 40 per cent. of total aluminium output and has the advantage of being less energy intensive in its production.

Only 5 per cent. as much energy is used in producing aluminium from scrap as in converting bauxite ore into primary metal.

The saving in electricity on the 200,000 tonnes of secondary metal produced is calculated by the industry at 3,200bn. kilowatt hours a year.

Alcoa, building a £35m. plant in Swansea to make aluminium sheet for drink cans, says it may add at some stage facilities there for reclaiming metal.

Regional Tories revolt over rates

By Stuart Alexander

A GRASS roots revolt by regional Tory leaders over the party's commitment to abolish the domestic rating system emerged at the week-end.

A succession of speakers from the floor at a Caxton Hall conference ahead of the forthcoming local council elections in May called on the platform either to drop the whole scheme or to be much more explicit over proposals for alternative methods of raising the revenue.

"I believe the party will live to regret bitterly the commitment entered into to abolish the domestic rate," said Lord Ridley, a former member of the Layfield Committee. "We must know what will be the replacement before going into the election."

The ability to implement a widely acceptable alternative was called into question with some members pleading for more time to sift the information available.

The prospect of cash limits imposed from above while having to rely on unpopular local employment and sales taxes to help raise the revenue was attacked but the moves were defended by Mr. Keith Speed, member for Ashford and the party's spokesman on the environment.

Growth in general ship cargoes likely

BY KEVIN DONE, INDUSTRIAL STAFF

MARITIME Transport Research, the research arm of the Shipbuilders and Repairers National Association, claims that there are good prospects for growth in general cargo carriers, despite the present gloom in many shipping sectors.

Few orders for tankers can be expected in the foreseeable future and sectors of the bulk carrier market are already affected by over-capacity. But, according to an MTR study of dry cargo ship demand to 1985,* the manufactures sea trades will show substantial volume growth to the mid-1980s and there will be an even greater growth in value.

Manufactures trade consists of steel products, vehicles, capital goods and household goods. It accounts for about 10 per cent. of OECD deep sea dry cargo trade, and in 1975 totalled some 85m. tonnes.

This trade has grown by some 6 per cent. between 1965 and 1975 and, contrary to expectations for many sectors, this growth rate should be sustained up to 1985.

* Dry Cargo Ship demand to 1985—Manufactures. Maritime Transport Research, 51, Grosvenor Place, London

U.S. group to make ion exchange resin in U.K.

ROHM AND HAAS, the U.S. chemicals manufacturer, is to begin production next year in the U.K. of its speciality range of acrylic ion exchange resins.

The resins, to be marketed under the trade names Amberlite IRA-458 and Amberlite IRA-68, will be made in the plant at Jarrow, Tyne and Wear.

Textile sackings

Ferguson Printers of Carlisle, part of Carrington Viyella, is to reduce its labour force because of low activity in textile manufacturing, the economic situation and effect of imports.

Orkney warning

The Orkneys would be a wasteland if mining of uranium was allowed to go ahead, Scottish Young Liberals' conference was told by Mr. Ken Le Dez (Dundee).

Shootings protest

The Ulster Unionist Party attacked the authorities yesterday for not doing more to protect prominent Protestants from Provisional gunmen. The latest victim was Mr. Robert Mitchell, 68, retired grocer and senior member of the Orange Order, shot down in Newry on Saturday night.

Welsh TV

WELSH Language Society officials yesterday asked Mr. Merlyn Rees, Home Secretary, to meet a deputation to discuss the delay in establishing a fourth television channel in Wales.

The society rejected a recent announcement from Mr. Rees that the all Welsh channel could not be set up until the economy improved.

Meriden back

Meriden Motor Cycle Co-operative workers return to-day after a three-week lay-off with no prospect of immediately resuming output of the Bonneville. They will work making spares or production of the Steyr Daimler Puch 50cc moped.

Farmers face problems after fill-dyke February

BY JOHN CHERRINGTON, AGRICULTURE CORRESPONDENT

THE WIDESPREAD floods which have been the most spectacular upset of the wettest February for many years have receded with the week-end sunshine and cold dry weather.

If they do not recur farmers will not have been too seriously affected by the almost continuous rain since September.

There are areas where the potatoes have not all been lifted, a little sugar beet is still in the ground and a sizeable amount of winter wheat has not been sown.

According to the latest returns of the Ministry of Agriculture the amount of land under wheat is down by 18 per cent. compared with 12 months earlier. But for all that it is still above the figure for 1974 by a considerable margin.

Of the crops planted, there has been some loss of winter wheat where water has lain on the fields for a considerable period.

In the Midlands it is possible to see large patches on the clay soil where the wheat has failed. But these are more common as small areas in individual fields rather than total crop loss.

This sets the farmer a problem. Should he re-plough and sow again or should he try to patch the spaces?

If he decides to patch he has not much time left. Winter wheat varieties do not yield very well if planted after mid-February and spring wheat seldom ripens at the same time if he should use these strains. So crop failures will probably be re-planted with barley.

Many farmers were worried because their wheat was planted late and in poor condition last autumn, but except in waterlogged areas, it seems to have come through intact. It is, however, very backward. This is almost certainly due to excessive leaching of nitrogen.

Nitrogen can be applied at any time from now. But unless the soil dries out the tractors doing this could cause considerable damage.

Sowing

Some farmers are already using aircraft to apply the fertiliser. If the wet weather should return there will undoubtedly be a considerable growth in demand for this service, expensive though it is by ordinary standards.

There is still plenty of time for spring sowing, when about two-thirds of the grain crop, mainly barley, is planted.

It is generally claimed that mid-March is ideal for this. Farmers with heavy land tell me they will need at least a fortnight's drying weather before they can get their land into suitable condition. Those on lighter soils will not have to wait as long.

Although most dairy cows and many beef cattle are housed throughout the winter, outlying cattle, and particularly sheep, have had a rough time. These animals never mind frost or snow, but to have their backs consistently wet does affect them.

The pastures where they have been kept have often been trodden into quagmires. There is no doubt that ewes, heavy in lamb, have suffered.

Considering how mild it was through most of February in the south of England, it is surprising how little growth there is in the pastures. Most are still far too wet for stock to run on for fear of causing damage, but if farmers have been able to apply nitrogen, growth should start before too long.

Lambing, which has just started, seems to be going fairly well. But in some cases percentages are down, a fact more due to stress caused by drought which were still affecting the ewes at mating time than to the wet weather.

Most flocks still lamb out of doors and heavy rain causes severe losses among young lambs. Of course flooding of pastures means moving the sheep.

But the rain has been welcomed by those concerned with water supplies. All reservoirs have been replenished and even the chalk hills of the south have had their underground water restored to levels approaching those for a normal winter. This has not happened for several years.

Prentice direct labour warning

FINANCIAL TIMES REPORTER

DIRECT LABOUR building by local authorities should not be expanded when the construction industry is suffering from economic recession and the Government's "misguided cuts," Mr. Reg Prentice, MP (Lab., Newham NE), says in an interview published to-day.

The interview assumes significance from the postponement last week of the First Reading of the Local Authorities (Works) Bill.

This would allow local authority direct labour forces a wider scope of operations outside the authorities' own areas.

The Government has denied that the Bill was postponed through fear of opposition from Labour MPs, giving the reason for postponement as a need to make drafting amendments.

Mr. Prentice's views are published in National Builder, the journal of the National Federation of Building Trades Employers, which to-day also issues survey results showing an expectation of a further decline in the construction industry.

Mr. Prentice is quoted as saying that he will examine the direct labour question further, "with a view to opposing in the House any move which would unreasonably extend direct labour forces at the expense of the private sector.

"Both in terms of the economy generally and the construction industry in particular, I do not want to see a further extension of the public sector for what are, in effect, doctrinaire reasons."

Important

Mr. Prentice hints he may be considering trying to block the Bill, by drawing an analogy to the Docks Bill.

"It needs only two or three of us to take a view that this Bill is bad. Personally, I am inclined to take this view. I do not want to be more specific at the present time."

The Local Authorities (Works) Bill was a prime example of a trend in the Labour Party to aim for more and more public ownership purely on doctrinaire grounds, he adds. "Principle apart, efficiency is an important criterion.

"I would argue for the private sector where it is doing the job more effectively. It should not be more costly to the community. Direct labour must be judged by a series of tests which are relevant."

He goes on to attack the public sector building cuts announced in the December budget. The construction industry was a bad instrument with which to control the economy.

● The slump in construction demand is still deepening, the final results of the National Federation of Building Trades Employers' latest state-of-trade inquiry indicates.

Almost 70 per cent. of the 650 respondents stated that they had received fewer inquiries for new work than in the autumn quarter.

A fifth said that the fall in inquiries was sharp, and all types of building work appear to be affected, including repairs and maintenance.

Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

● METALWORKING

Saves sand in small foundries

INTENDED FOR the smaller foundry, a sand reclamation unit has been introduced by Newport Forge and Engineering, Newport Road, Pant Glas Industrial Estate, Bedwas, Gwent (0222 885711).

Sand throughput is 2 tonnes/hr., a figure which the company claims should allow repayment of capital costs within a year from savings in sand consumption.

Driven by a single motor, it is a vibratory attrition reclaimer, of inverted vee construction. This allows the motor to be fixed close to the centre of gravity of the machine. Sand screening and delivery is carried out in twin base compartments.

It is a low-level machine, with a lip height of 39 inches, suitable for either manual or mechanical feeding. The floor mountings are air-type, to reduce transmitted vibration and noise.

The unit has a fan powered pneumatic suction conveyor to deliver reclaimed sand, a classifier filtration unit with impact plate, and a 5 tonne sand storage tank. The filter can be installed to deliver sand to an existing silo.

Many bends made simply

BRITISH-designed bar bending machines, incorporating advances in speed and accuracy of bends, are offered by Crow Hamilton, of Glasgow.

Field studies on construction sites and in factories have been carried out with leading users over a period of two years. Each machine features pedal operation, pinless dial-setting of up to four bend angles, two-speed operation and "sophistication without electronics" the makers assert.

Power sources of up to 7.5 h.p. in totally enclosed drives require minimal maintenance: training even of inexperienced operators presents no problem, with automatic interlocks preventing damage or injury to machine and user alike.

Crow Hamilton, 248, Seaward Street, Glasgow. 041-429 5661.

● POWER

Hydraulics could cut costs

IN THE series of conferences (by the Institution of Mechanical Engineers) on the advantages of replacing electric drives in factories by hydraulic ones fed from a central point, and the consequences for the country of such a move, a presentation by Professor W. Murgatroyd, Imperial College, brings out some remarkable facts.

The primary one is that in a series of countries where advanced technology is used as a matter of course, about 80 per cent. of industrial electricity consumption is used for motive power, or about one-third of each country's total electricity production.

Cogent to this is the fact that although induction motors are a reliable and cheap way of producing motive power, they provide a very low overall conversion level from electricity to the final drive and figures can be derived simply for the whole country which suggest that around half the electrical input is wasted in the conversion.

While hydraulics offer an excellent means of producing industrial motive power in the least wasteful way, at first sight, the professor points out that there is a lack of trained systems designers while adaptation to meet varying standards of reliability poses another problem. To make conversion to hydraulics attractive and feasible, a big organisation would have to mass-produce the various components required.

That being said, however, the advantages of a central hydraulic system, driven by a large diesel engine, for instance, are great enough to be given serious consideration by any big user. Apart from improved speed/torque characteristics, the fluid power motor is cheaper, ranging from only 90 per cent. of the cost of an induction motor of 20 h.p. down to less than 60 per cent. in the case of a 225 h.p. unit (with gearing).

Where the user requires continuously variable speeds, the cost advantage is a very significant order of magnitude lower for fluid drive.

There are no hidden catches as the costs of other components required in hydraulic networks are lower than in an electrical system, since most of them are made of mild steel, are simple and require few expensive or scarce resources.

Studies carried out very recently, aimed at a number of key industries, show that efficiency of energy consumption is poor and that losses in the engineering and metal industries, chemical and allied industries and metal manufacture, which cover over 70 per cent. of industrial consumption, amount to some 40 per cent. of the total.

Conclusions include the important one that average efficiency of industrial electric drives taken over the whole of the U.K. industry is well under 40 per cent. and that an appreciable fraction of the output of the country's generating plant, itself capturing only about 27 per cent. of the heat actually released in the conventional or atomic furnaces it uses, is in fact wasted. Institution of Mechanical Engineers 01-839 1211.

Accurate control of speed

FEW POWER engineers would deny the technical elegance of varying the speed of a shaft by driving it with an induction or synchronous motor fed with a correspondingly varying ac.

The principle has been known for many years but its practical realisation has been dogged by the cost in comparison with dc motor control. There have also been problems of reliability and servicing of the ac control circuits coupled with a suspicion by some plant engineers of almost anything electronic.

But times, and technology are changing and the latest company to grasp the manufacturing nettle is Brentford Electric which has decided to buy a design from Task Corporation in the U.S. and make it at its Crawley factory.

Using an arrangement of five standard low power level control cards common to all sizes of system and a range of power modules, motors from 2 kVA to 300 kVA can be controlled. An inverter is used which changes 50 Hz mains into controlled dc and then generates a three phase ac output to drive the motor with an adjustable frequency and hence speed independently of the supply.

Speed ranges of between 10 and 20 to one can be obtained and it is possible to run at up to 15,000 rpm directly. The drives can provide constant maximum torque and constant maximum mechanical power or a combination of the two. Controlled torque can also be provided for constant tension (for example in the textile industry) applications.

The output frequency of the inverter is held to 0.05 per cent. or better and 0.001 per cent. is possible with an optional digital control. No shaft reference is needed.

The unit produces no excess surges on starting and the run-up and run-down rates are predetermined. Motor overload torque is limited to a safe level and should the overload persist the drive automatically shuts down.

The drives can be made to regenerate power if overdriven, to operate through a temporary power supply disturbance or, for a longer outage, from standby batteries which are connected into the dc stage of the inverter.

For more advanced continuous process applications Brentford states that the drives can be incorporated into control systems of any complexity, including those making use of computers.

The company believes that it has come into the market at the right time: there is a noticeably increasing demand for accurate and maintenance-free speed control: at the same time the cost of dc motors is now up to four times that of the equivalent induction motor and is likely to become even greater since the dc motor lends itself less easily to automated manufacture.

For many applications dc machines with sparking brushes simply cannot be used, and in the food industry cannot be hosed down as a totally enclosed induction motor can.

In parallel, the cost of electronics — including power electronics — is reducing and in relative terms is likely to continue to do so.

At the moment the first cost of an ac drive is 40 to 50 per cent. greater than the equivalent dc unit, but according to Brentford too much emphasis is put on this rather than costs that will be incurred later. There is a lot more to go wrong with a dc drive and downtime is becoming a costly problem, particularly in continuous processes.

Brentford believes that the ac drive will soon inevitably move out of the area of highly specialised speed control into many other more mundane applications.

Of the hundreds of thousands of medium to high power variable speed motors in use in the U.K. alone, Technical Director M. Fry believes that 90 to 95 per cent. are dc and will be actively considered for updating to ac when replacement time comes round. More on 0293 27755.

GEOFFREY CHARLISH

● PACKAGING

Advances in strapping

CARTON CLOSING, and sealing operations, covering such diverse applications as food, packaged consumer goods, newspapers, metal and plastic extrusions, and timber, can be carried out on a fully automatic strapping machine launched by Lawco-Avistrap, 60, Vauxhall Road, Liverpool L69 3AU (051-227 1212).

The equipment includes power feed and discharge conveyors, and a strapping unit which will apply, tension and heat seal ½ and ¼ inch wide by 0.02 inches thick polypropylene strapping at over 700 straps/hr.

Strapping sequences are controlled by semi-sealed limit switches within the conveyor beds, and 1, 2, 3 or more straps can be applied to constant or random length packages or bundles at preset distances from the leading and trailing edges.

Trip settings are easily adjustable to secure any length of package upwards from nine inches, with any number of straps. This enables the equipment to handle frequently varying pack sizes with no adjustment delay. Average standard cartons can be strapped at about 400/hr.

As an example of economy, the maker quotes a factory test where, on a 1,000 carton output per day, the cost of applying two straps around a 6 x 18 x 25 inch carton was calculated to be 0.002p/ft of strap (including power, but excluding depreciation, etc.).

The conveyors are driven by a dual-drive ¼ hp electric motor, and the strapping cycle is electrically activated and pneumatically driven. A pedal allows an over-ride for occasional strapping outside the pre-set limits, or for strapping without the conveyor running. The unit requires two metres of conveyor line space.

Another automatic machine, with conveyors feeding the packages in and out of the strapping unit, has been introduced by P. P. Payne's Strapping Division, Hadyn Road, Nottingham (0602 607221) a Norcros Group company.

The system is controlled by photoelectric cells positioned beyond the strapping arch. Any number of 12 or 15 mm wide heat sealed Polystraps can be applied to cartons or bundles (depending on the number of cells used) at a rate of 27 straps/minute. Tensioning can be adjusted to suit the package. Additional cells can be incorporated to count the packets.

Once the machine is started packing is completely automatic. Pack sizes can vary from 110 mm wide by 50 mm high upwards. Called the Tristar, this machine can also handle most types of cartons, containers, unit packs and bundles.

P. P. Payne has also introduced extra thick metal seals, which are said to boost the performance of its Poly-S-Strap—a polyester material, 0.015 or 0.02 inch thick by 12 mm wide. The maker claims this strap is making inroads in fields traditionally associated with steel banding, and that its strength enables it to be used for securing large crates, heavy containers, pallets and bulk loads.

● CONFERENCES

Warehouse automation

SOME 30 experts from 10 countries will be describing the latest advances and experience in the efficient and economic operation of production and distribution warehouses at the Second International Conference on Automation in Warehousing.

The conference will be held at Keele University, Stoke-on-Trent, March 23 to 25, and will be opened by Lord Ryder, chairman of the National Enterprise Board. Papers to be presented will cover operational experience, equipment development, control systems, management aspects, such as fire hazards, legal requirements, training and marketing and new concepts.

In the equipment development session a paper will be presented by the West German company, Rapistan Technics, on "Order selection to conveyors with voice encoding—an advanced distribution warehouse system incorporating a high degree of mechanisation and automation."

Details from the organiser, International Fluidics Services, 35, High Street, Kempston, Bedford. MK42 7BT (0234 853605).

● SAFETY

Check on ventilation

SOME 600 portable anemometers worth £40,000 have been bought by the Health and Safety Executive for use by Factory Inspectors. The contract was awarded to Airflow Developments of High Wycombe.

Principal use of the instruments, the model ETA-3000, will be to check ventilation conditions in potentially hazardous areas such as paint-spray shops, metal treatment baths or wherever fumes or particle suspensions may be involved.

ETA-3000 is a compact hand-held unit able to measure accurately air velocities from 0.1 to 15.0 metres/sec. and modified for this particular order to read up to 30 m/sec.

Electronically operated, the instrument has a thermally compensated probe which eliminates the need to calculate the effect of air temperature over a wide range. The probe can be fitted with interlocking extension rods so that wall- or ceiling-mounted equipment can be easily reached. More from Lancaster Road, High Wycombe, Bucks (0494 25252).

● TRAINING

Student glimpse of engineering

THE FACT that the country's manufacturing industries are the potential source of half our exports (engineering alone accounts for over one-third), the unsatisfactory view of engineering as a profession taken by school sixth-formers and, just recently, the emergence of the "great debate" on education have all given added impetus to PETT.

PETT (Project—Engineers and Technologists for Tomorrow) is a Department of Industry venture in which 47 industrial bodies (including the CBI and EEF) participate and which aims to improve the image of the professional engineer and technician and encourage school leavers to enter.

But it is difficult for sixth-formers to know what to expect at university and to this end King's College (London) has announced a "workshop" in conjunction with PETT at which some 40 boys and girls can spend three days at college experiencing the day-to-day environment followed by two days at engineering companies. A booklet on the subject is obtainable from the PETT secretariat, Department of Industry, John Islip Street, London SW1P 4LN (01-211 4298), the main aim being to encourage other colleges to start up such enterprises.

● MATERIALS

Colours for food from France

AN EXTENSIVE range of natural colours for use in the food, pharmaceutical, and cosmetic industries, and claimed to conform to all existing EEC regulations, is being marketed in the U.K. by the Jacobson chemical division of R. S. Stokvis and Sons, Pool Road, East Molesey, Surrey. (01-941 1212).

Produced in France by Phytocolor, the range has been specifically developed to meet the growing resistance by makers of confectionery, dairy products, medicines and others, to the use of artificial colourings.

By blending prime natural colours, the normal range has been covered, and requests for special shades can be met. Vegetable blue is mixed with yellows to produce greens and with red to compose violet colours, for example.

Cochineal carmine is widely used in France in yoghourts, confectionery and preserves as well as toothpaste and lipstick. Another in the range, Chlorophyl, is designed for canned products including pet foods.

● INSTRUMENTS

Easy-to-use recorders

LOW COST compact recorders which overcome the ergonomic limitations of traditional flat-bed instruments include the single-pen model Philips PM 8251 and the dual-pen Philips PM 8252.

Controls, and paper and pen access, are at the front. Both models use standard 25 mm width Z-fold chart for optimum resolution and maximum convenience. Both models provide continuous zero adjustment over the full scale as well as zero point location at any time. Chart drive is provided by a stepping motor and allows speeds of 0.5; 1; 2; 5 and 30 cm/min.

The writing system uses a disposable nylon tipped cartridge which ensures over 1,500 metres of clean, reliable writing.

Pye Unicam, York Street, Cambridge CB1 2PX. Cambridge (0223) 58866.

COMPANY NOTICES

REPUBLIC OF SOUTH AFRICA 1971/86

8% Loan of ECUs 25,000,000

The redemption on 1st April 1977, for which a sum of ECUs 1,000,000 is planned, has been completely repurchased on the Stock Exchange.

Amount remaining in circulation after 1st April, 1977:—ECUs 22,000,000.

Paying Agent:
BANQUE DE PARIS ET DES PAYS-BAS POUR LE GRAND-DUCHE DE LUXEMBOURG

BISHOPSGATE PLATINUM LIMITED AND ITS SUBSIDIARY COMPANY

DIVIDEND ANNOUNCEMENT

[illegible]

DECLARATION OF DIVIDEND NO. 14

[illegible]

CITY OF BERGEN 1973/1991 7¼% Lux Frs Loan

[illegible]

DUNFORD & ELLIOTT LTD.

[illegible]

CITY OF OSLO 1974/1992 8¼% UA12,000,000

[illegible]

CONTRACTS AND TENDERS

GOVERNMENT OF TRINIDAD AND TOBAGO—WEST INDIES

CENTRAL TENDERS BOARD

INTERNATIONAL NOTICE OF INVITATION TO RE-TENDER FOR TWO WORKS FOR THE CARONI-ARENA WATER SUPPLY PROJECT IN THE ISLAND OF TRINIDAD FOR THE WATER AND SEWERAGE AUTHORITY

CONTRACT 4A—SUPPLY AND INSTALLATION OF PIPES AND VALVES

[illegible]

C. E. POLO
Director of Contracts
Central Tenders Board
Government of Trinidad & Tobago

2nd February, 1977.

Republic of Malawi
Blantyre Water Board
Tender Notice — Phase IV Extensions

Tender for Civil Engineering and Building Construction

Tenders are invited for the construction of extensions to and modifications of the Board's existing installations.

This project is financed from U.K. and Commonwealth/Malawi Grant/Loan Funds.

For the purpose of construction, the project has been divided into five contracts:—

Contract No. 2A - Walker's Ferry Treatment Installations [illegible]

Contract No. 2B - Main Pumping Stations [illegible]

Contract No. 2C - South Lunzu Reservoir [illegible]

Contract No. 2D - Mudi Installations [illegible]

Contract No. 2E - Pipelines [illegible]

Prospective contractors may submit tenders for any one or any combination of these contracts.

[illegible]

The date for submission of Tenders is Thursday, 2nd June, 1977.

The address of the Consulting Engineers is:—

Sir Alexander Gibb & Partners (Africa), Delamere House, Victoria Avenue, P.O. Box 1196, BLANTYRE, Malawi

and

Sir Alexander Gibb & Partners (Africa), Shell House, Harambee Avenue, P.O. Box 30020, NAIROBI, Kenya.

YEMEN ARAB REPUBLIC

YEMEN GENERAL GRAIN CORPORATION

PREQUALIFICATION OF TENDERERS FOR CONTRACT YGGC1

CONSTRUCTION OF A GRAIN STORAGE SILO AND BAGGING FACILITY AT THE PORT OF HODEIDAH

[illegible]

TURKISH STATE RAILWAYS (TCDD)

THE CHAIRMANSHIP OF CENTRAL PURCHASING AND SALES COMMISSION

Tenders are invited for 9 ea. snow remover of three different types of which the technical features are indicated in the Specifications.

1—The above materials are to be purchased by receiving bids from the countries who are members of the World Bank (IBRD).

2—The Specifications prepared for this purpose in Turkish and English can be purchased from TCDD's central cash office in Ankara and Sirkeci cash office in Istanbul at a price of TL. 250.—

3—The bids shall be received by/or handed in person to our Commission not later than Tuesday the 5th April 1977, 15.00 hours, to hold a meeting at TCDD Supply Department on this date.

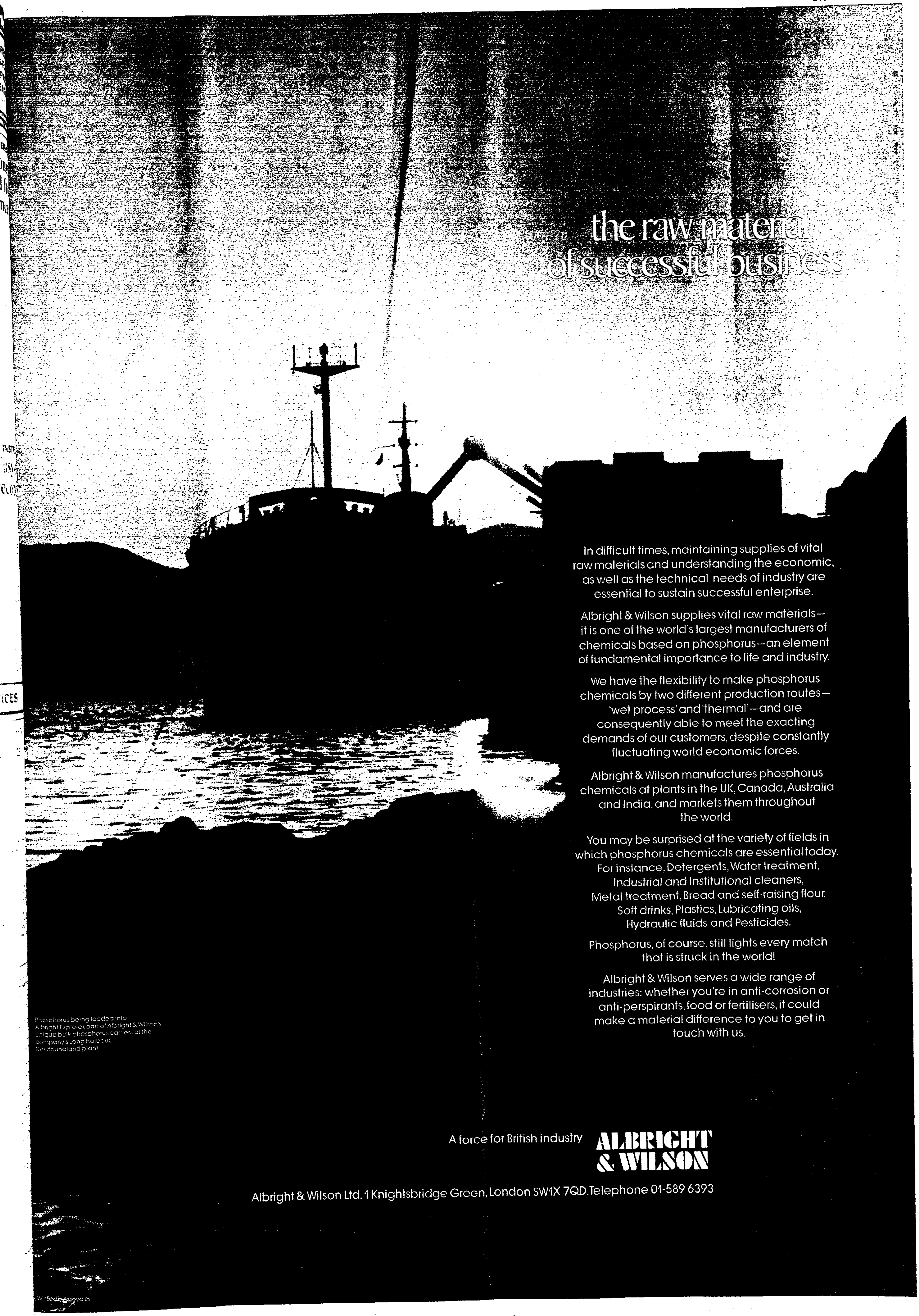
4—The bids shall be submitted in seven (7) copies (together with their Turkish versions, if possible), and the words "TCDD Isletmesi Genel Müdürlügü Merkez Alim ve Satim Komisyon Baskanligi Gar-Ankara/TURKEY" and "This is an offer for the material subject to IBRD's loan" and also subject of the Bid shall be written on the envelope containing the bids.

5—TCDD shall be completely free whether to award contract(s) for all or some of the items to any bidder at its sole discretion.

SAUDI ARABIAN CONTRACTOR

invites enquiries from U.K. firms interested in carrying out joint work in the Kingdom of Saudi Arabia in the fields of precast concrete, general building and civil engineering.

Contact: P.O. Box 1996, Riyadh, Saudi Arabia.



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of successful business
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We have the flexibility to make phosphorus chemicals by two different production routes—'wet process' and 'thermal'—and are consequently able to meet the exacting demands of our customers, despite constantly fluctuating world economic forces.
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Phosphorus, of course, still lights every match that is struck in the world!
Albright & Wilson serves a wide range of industries: whether you're in anti-corrosion or anti-perspirants, food or fertilisers, it could make a material difference to you to get in touch with us.
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Albright & Wilson Ltd. 1 Knightsbridge Green, London SW1X 7QD. Telephone 01-589 6393

FT GROCERY INDEX

Food prices rise at less than half January rate

BY STUART ALEXANDER

FOOD PRICES rose in February at less than half the January rate, according to figures for the Financial Times Grocery Price Index.

Although dairy goods, coffee, some bread and preserves all went up, they were matched by a sharp fall in cost of meat and fruit. Non-foods reversed the January fall. The net result was a 1.16 per cent. increase in prices and a 2.93 increase in the index to 253.96.

Coffee continued to soar, with rises of up to 27p for a four-ounce jar compared with January, but in some areas, which had already seen high price rises, there was little change.

Eggs were generally more expensive by about 3p a dozen, and cheese by 10p a pound for Cheddar. Bacon was cheaper all over the country, as late winter special offers became available.

Beef surloin was again cheaper, as was pork in general Bargains in lamb were balanced by some increases. Chickens cost more.

Prices of fresh fruit and vegetables, appreciably higher in January, stabilised and in some cases even fell as variety improved slightly and new-season crops from abroad become more plentiful. Tomatoes, however, were more often up in price than down.

Prices crept up in the non-foods sector. Detergents and household tissues cost a startling 6.03 per cent. more. No one is held responsible, the increases applying to most goods.

The rise in frozen foods and canned goods was small, partly reflecting the easier situation in an industry which late last year was doubtful of maintaining full supply.

The outlook for meat prices is good, with no early signs of an upturn to a market which has seen prices steadily sliding. Beef, however, is not likely to go down much further and the New Zealand lamb producers are already complaining that the price is too low.

More worrying is the prospect of food price increases over the whole year. Compared with December, the FT index is already up by 3.73 per cent., which bears out fears expressed by the Food Manufacturers recently that the total rise in 1977 would be at least 15 per cent., more probably 18 to 20 per cent.

FINANCIAL TIMES SHOPPING BASKET

	February £	January £
Dairy Produce	134.87	130.83
Sugar, Tea, Coffee, Soft Drinks	67.10	63.48
Bread, Flour, Cereals	78.61	77.37
Preserves and Dry Groceries	28.03	25.84
Sauces and Pickles	13.53	13.60
Canned goods	45.13	44.74
Frozen foods	39.02	38.47
Meat, Bacon, etc. (fresh)	167.64	172.50
Fruit and Vegetables	124.44	125.87
Non-Foods	52.20	49.23
Total	750.57	741.93

1971: Feb. 100; Mar. 101.09; April 102.73; May 105.75; June 108.00; July 107.24; Aug. 105.40; Sept. 105.26; Oct. 104.35; Nov. 105.48; Dec. 108.26.

1972: Jan. 109.18; Feb. 109.10; Mar. 109.24; April 108.04; May 109.36; June 115.97; July 111.97; Aug. 113.40; Sept. 112.14; Oct. 113.15; Nov. 11: 114.8; Nov. 18: 114.49; Nov. 25: 114.72; Dec. 2: 114.72; Dec. 9: 114.75; Dec. 16: 115.77.

1973: Jan. 117.56; Feb. 119.25; Mar. 120.53; April 123.80; May 125.57; June 128.81; July 127.64; Aug. 126.59; Sept. 129.39; Oct. 133.83; Nov. 135.83; Dec. 138.26.

1974: Jan. 141.41; Feb. 141.52; Mar. 142.66; April 8: 143.23; April 29: 142.64; May 145.17; June 147.97; July 146.22; Aug. 145.25; Sept. 147.6; Oct. 150.5; Nov. 156.39; Dec. 159.15.

1975: Jan. 162.84; Feb. 167.77; Mar. 173.50; April 178.49; May 183.41; June 193.02; July 188.45; Aug. 189.23; Sept. 186.64; Oct. 189.79; Nov. 194.78; Dec. 201.90.

1976: Jan. 208.33; Feb. 211.81; Mar. 216.60; April 222.43; May 226.78; June 222.82; July 216.71; Aug. 221.34; Sept. 230.34; Oct. 237.28; Nov. 241.53; Dec. 244.82.

1977: Jan. 251.03; Feb. 253.96.
Index: 253.96

LABOUR NEWS

More opposition to pay curbs

BY DAVID CHURCHILL, LABOUR STAFF

GROWING opposition to the social contract and another round of pay restraint emerged at the week-end from trade unions representing engineers, car workers, bank staffs, and civil servants. They suggested they were unwilling to accept a new pay policy unless the Government radically altered its policies.

The executive of the Society of Civil and Public Servants, which represents 100,000 middle management grades, is opposed to a new pay policy unless the Government allows the Civil Service pay research unit to operate again.

The unit was suspended at the beginning of the first pay policy.

Mr. Gerry Gillman, the union's general secretary, said last night the executive's decision had to be ratified by the society's annual conference in May.

The effects of the social contract on staff in the Bank of England have been spelt out in a letter to the Chancellor from the 3,500-member Bank of England Staff Organisation. It said the pay policies "have produced serious injustices to various categories of staff."

A week-end rally of more than 1,000 trade unionists in London was told by Mr. Bob Wright, Left-wing candidate for the presidency of the Amalgamated Union of Engineering Workers, and Mr. Derek Robinson, chairman of the Leyland combined shop stewards committee, that the social contract was dead and that there should be free collective bargaining from August.

● Mr. Sid Weighell, general secretary of the National Union of Railwaymen, said in the latest issue of his union's journal that he was in favour of the social contract continuing, although he felt a new pay policy should be more flexible.

NALGO threat to abandon social contract

By Our Labour Staff

CUTS in public expenditure could lead the biggest public sector union, the 670,000-member National and Local Government Officers Association, to withdraw its support for the social contract, it was claimed at the week-end.

The warning came from Mr. Geoffrey Drain, NALGO general secretary, in a letter to all MPs urging them to put pressure on the Government to reconsider its cuts.

Wages Council 'not needed'

THE FUR Wages Council has not fulfilled its proper role in recent years and the union mainly concerned—the Shop Distributive and Allied Workers—has suggested that it is no longer needed. Abolition has now been referred to the Advisory Conciliation and Arbitration Service by Mr. Albert Booth, Secretary for Employment.

Since 1919 when the council was originally set up, the number of concerns and workers under its auspices have declined to some 750 involving only 7,000 employees.

● NEWS ANALYSIS—TOOLMAKERS

A neglected elite

BY ALAN PIKE, LABOUR STAFF

"HUGH SCANLON says that toolmakers must not become an industrial elite within car factories. There already is an elite—the people who sweep the floor."

Such comments, common on the picket line outside British Leyland's Castle Bromwich body plant since the company-wide toolroom strike began a week ago, illustrate the level of bitterness which some of the motor industry's most highly-skilled workers feel about their relative position to-day.

The picket itself is a symptom of their attitude, for Castle Bromwich toolmakers are proud of a virtually strike-free industrial relations record.

Conversation with the toolroom strikers gives practical confirmation to the picture of skilled engineering workers suffering disillusion from problems of pay differentials, status and career prospects which was presented in a National Economic Development Office report published last month.

Rewarded

Rates of pay and levels of differential between skilled and semi-skilled workers vary from one Leyland factory to another. At Castle Bromwich toolmakers claim that most are lucky if they take home between 75p and £1.25 a week more than production workers who do not have the same training or responsibility.

One contemporary view in the motor industry — the thinking behind the common production pay rate at Leyland's Cowley plant — is that all car workers contribute to the final product and should be equally rewarded.

Such a view is completely rejected by the toolmakers. They respond to this idea, and to criticisms that their present strike is suicidal in the economic state of British Leyland, with the reply that the company is finished anyway unless it learns to motivate and reward its key workers properly.

To appreciate the intensity of feeling which has led to 3,000 members of the Amalgamated Union of Engineering Workers remaining on strike in defiance of their executive it is necessary to understand that, in an industry where the terms skilled and semi-skilled are sometimes used loosely, toolmakers really are craftsmen.

The toolmaker's job is to make, set and maintain his factory's jigs, dies and machine tools to the highest standard of accuracy. A good toolmaker will quite naturally take engineering drawings home and work on problems in his spare time if he is faced with a difficult job. In many plants it is still customary for a man to provide his own tools, which will now cost £200-£300 a set.

And, above all, a toolmaker is a time-served apprentice. To under-estimate the importance of this is to misunderstand the social foundation of an industrial city like Birmingham, where for generations it has been believed that to get a son apprenticed to learn a trade is to give him an excellent start in life.

Some of the older men on the picket line at Castle Bromwich served a seven-year apprenticeship with a tiny starting wage. To-day the apprenticeship period is about four years but young people still accept lower starting rates than they can get in unskilled jobs in the expectation of a more secure future.

One Castle Bromwich picket recalled that, when he became an apprentice 25 years ago, he was one of four successful applicants from 130. It is now becoming difficult for the engineering industry to attract and retain suitable young people and fathers say that they do not want their sons to follow them into the trade.

The problem of attracting young people to skilled engineering jobs is aggravated by older men who become disillusioned and leave. "We've been visited on the picket line by people who used to work with us," said Mr. Love. "They are doing unskilled work where their training is absolutely wasted. But they look on us as paupers now."

However — again confirming the conclusions of the NEDO report — the pay differentials problem, although one of the immediate issues behind the strike, is not the only cause of discontent.

There is at least as much resentment about the status of the skilled worker, with many complaining bitterly that despite their training and length of service they do not have the same security and privileges as any 16-year-old typist in the factory offices.

Inquiry

The AUEW, historically a craft union although it now has all types of engineering workers in membership, sympathises with the toolmakers' feelings on pay but is reluctant, although it stops short of supporting the demands for a separate company-wide tool-room negotiating unit —toolmakers are not the only group of highly skilled men in the motor industry.

The Transport and General Workers' Union, which in the main represents the mostly semi-skilled car-workers, understandably takes a less exclusive view of the meaning of skill and is pressing for the highest pay rates for all production workers.

The Government is at present considering setting up an inquiry into the supply and training of professional engineers, and many skilled engineering workers would like to see it extended to them.

But with the future of the pay policy and British Leyland tied up in the present strike, the toolmakers cannot expect their underlying problems to be discussed in such a calm atmosphere, however necessary this may be.

FT SURVEY OF CONSUMER CONFIDENCE

Pessimistic view of future as inflation worries mount

BY ELINOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

WITH CHRISTMAS and the clearance sales over, consumers were again taking a gloomy view about the future at the beginning of this month.

According to the latest Financial Times survey of consumer confidence, people were taking a markedly more pessimistic view about the future at the beginning of this month than they had a month ago.

The proportion of people feeling worse off compared to a year ago also rose, sharply particularly among blue collar workers, while, far fewer people thought it was a good time to spend money on major items for the house than they had last month during the clearance sales.

This month, those feeling pessimistic about the future outweighed those feeling confident by 12 per cent. among all adults as against only 8 per cent. last month.

Worries

Even so, confidence is higher than it was in the last four months of last year. In November, for example Jeremiahs outnumbered optimists by 36 per cent.

Worries about inflation had tended to increase since January, particularly among professional families, but lack of confidence in the Government had not returned to its pre-Christmas low.

The professional men, who last month were more optimistic about the future, took a gloomier view than others in February.

The six-month moving average figures for future confidence show a small improvement for all adults because, in spite of the fall in confidence this month, people are feeling slightly more cheerful than last summer. The six-month figure for ABC1 men, however, showed a small fall.

Blue collar

The proportion of all the respondents feeling worse off compared with a year ago rose again this month to only just short of the very high November and December levels: 39 per cent. more of all the people interviewed in February felt worse off as against 34 per cent. in January.

The fall was almost entirely due to the responses of men in blue-collar jobs. Forty-seven per cent. more of C2DE men felt worse off this month because of inflation compared to a year ago.

This was the highest proportion for some time and women from the same background felt only slightly less pressured by inflation.

ABC1 professional men feeling worse off compared to a year ago, outweighed those feeling better off by 27 per cent.

The six-month "past prosperity figures" for both ABC1 men and all adults continued to deteriorate.

The biggest change this month was in the attitude towards buying things for the house. In spite of feeling hit by inflation, most people considered it was a good time to buy consumer durables at the end of last year.

The view strengthened in January, particularly among professional men, but in February far less people were feeling bullish about spending money.

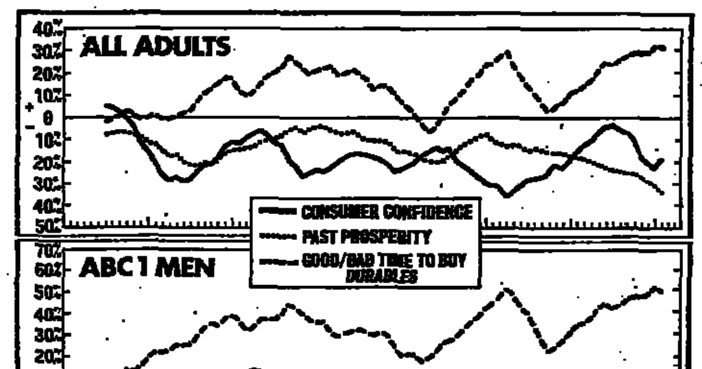
The number of all respondents thinking it was a good time to buy outweighed those who thought it was not by 28 per cent. this month as against 39 per cent. in January and 29 per cent. last December.

Sharp drop

Professional men were more enthusiastic about spending money than others. But whereas in January 60 per cent. more ABC1 men were in favour of buying than those who were not, there was a balance of only 36 per cent. in favour this month.

This sharp drop in attitudes towards spending on major items was also reflected in the six-month moving average figures, though both "time to buy" indices are still at historically high levels.

The survey was carried out by the British Market Research Bureau among 985 adults between February 3 and 9.



SNOW REPORTS

	Depth (cms) L	U	State of Piste	Weather	°C
Andermatt	70	350	Good	Cloud	−3
All slopes in good condition					
Murren	10	200	Good	Fine	0
Good skiing everywhere					
Niederau	45	110	Good	Snow	−3
New snow: conditions good					
St. Anton	70	225	Good	Fair	0
New powder on hard base					
Tignes	200	300	Good	Snow	−3
Good skiing conditions					
Zermatt	70	180	Good	Fine	−3
Excellent skiing conditions					

Above reports were supplied by representatives of the Ski Club of Gt. Britain. L—Lower slopes. U—Upper.

SCOTLAND

Cairngorm: Main runs and lower slopes all complete. New snow on a firm base. Vertical runs 1,600 feet. Access roads clear. Snow level 1,500 feet.

Glenshee: Main runs all complete. Lower slopes, ample nursery areas. Hard packed snow. Vertical runs 1,000 feet. Access roads clear. Snow level 1,500 feet.

Glencoe: Main runs and lower slopes all complete. Hard packed snow on a firm base. Vertical runs 1,500 feet. Access roads clear. Snow level 1,500 feet.

Forecast: Mainly dry. Sunny intervals, especially at Glencoe. Freezing level 1,500 feet. Wind SE, moderate or fresh.

TUC BUDGET PROPOSALS SINGLE OUT JOBS AND PENSIONS FOR MORE SPENDING

Reflation of £2.4bn. urged

BY CHRISTIAN TYLER, LABOUR CORRESPONDENT

A BUDGET reflation of £2.4bn., of which £1.5bn. net. should be in the form of income tax cuts, is called for by the TUC in its economic review published to-day.

The areas singled out for more Government spending are pensions, the National Enterprise Board, the construction industry, and measures to save and create jobs—including a new "job expansion subsidy."

The cost of these measures in 1977-78 could, the TUC admits, mean a conflict with the limit on the Public Sector Borrowing requirement set by the letter of intent to the IMF.

But calling in aid the now common forecast that the borrowing requirement will be £1bn. less than thought earlier, the TUC says that the net cost of its proposals could be less than a £1bn. once the saving from job creation and other measures was taken into account.

It points out that the social contract, and the industrial strategy are given prominence by the Government in the letter of intent and says: "Fulfilling these aspects of the letter of intent are just as important as, if not more important than, rigid adherence to monetary targets."

A chapter on pay and prices makes it clear that the form of pay discussions will depend on "an acceptance response" to the policy changes called for in the review.

Favourable

If the pound were to maintain its present value of around $1.70 and commodity prices did not move suddenly upwards, the inflation rate would drop to 10 per cent. by December this year.

"Given the favourable exchange rate, there is a real prospect of single-figure inflation by next winter, and 5 per cent. inflation by the summer of 1978."

The economic review devotes a chapter to the industrial strategy being worked out within 39 tripartite sector groups.

This approach is useful, but not sufficient by itself, and although the targets on containing imports and expanding export are promising, working party reports have not suggested any substantial increase in employment is likely.

The TUC repeats its commitment to planning agreements in the top 100 companies, and says that the Government will have to rethink unless some voluntary planning agreements are reached.

It again urges that the National Enterprise Board should have £1bn. a year to spend when fully operational.

For the Budget, it proposes £200m. of funds for the NEB and for aid through the Industry Act.

Construction, energy and transport are singled out for special attention in the context of the industrial strategy and the TUC calls for £100m. to be spent on capital projects in building and civil engineering.

The £300m. cut in the 1978-1979 housebuilding programme should be restored.

Direct action on employment should include a postponement of the closing date for applications under the Temporary Employment Subsidy to the end of this year. The subsidy had saved about 181,000 jobs and the cost of the extension would be £70m.

Redundancies should not take place without the approval of the Department of Employment, and the subsidy should be paid on the initiative of public authorities while the department is investigating planned redundancies. A further £35m. should be spent on the job creation programme.

Regretting the Government's decision to abolish the regional employment premium the TUC calls for a job expansion subsidy, to which the Government should contribute £100m., net of the saving in unemployment benefit.

Under this scheme a company which expanded its employment should be paid a subsidy of £20 a week for each extra job above its average payroll for 1976.

Further measures were needed to help finance training in industry by employers and the present "arbitrary arrangements" for providing educational allowances should be replaced by a mandatory scheme of standard payments.

The TUC says it is pressing for major reform of the Common Agricultural Policy.

The main points are: No devaluation of the "green pound," no increase in EEC institutional prices for commodities where intervention has taken place and a cut in EEC intervention price for dairy products.

The maintenance of the variable beef premium scheme; long-term agreements for supplies of commodities that can be produced more cheaply outside the EEC.

No introduction of a common policy for sheepmeat; the strengthening of U.K. marketing arrangements; and opposition to over-restrictive EEC legislation.

It supports the idea of a Land Commission to operate a sell and lease-back arrangement for agricultural land in lieu of capital taxation.

TUC BUDGET PROPOSALS: NET EXPANSIONARY EFFECT	£m.
Income tax changes (net)	1,500
National insurance benefits	150
N.E.B. and Industry Act	200
Construction industry	100
Temporary employment subsidy	70
Job expansion subsidy	100
Job creation scheme	60
M.S.C. and training	50
Education	25
Earnings related supplement	30
Supplementary benefit	35
School meals	50
Total	2,370

TUC Economic Review: 1977

Prices: The 15 per cent. inflation rate forecast by the Chancellor for December this year would be "extremely damaging." Action is needed to ensure the rate is brought well below 15 per cent. by the end of the year.

A higher and stable exchange rate for sterling would bring real easing of inflationary pressures. This would probably outweigh the benefits of further export price competitiveness from a low exchange rate.

Non-price factors like after-sales service and reliability were crucial to improving export performance, and extra sales abroad could probably be achieved even with an increase in export prices.

Because of its effect on prices, a further increase in indirect taxation this year would be "most inopportune." The Government should, moreover, allocate £50m. to help keep down increases in school meals charges.

The TUC would like the present legislative powers which establish a Price Commission and a price code to continue after July 31 this year, although recognising that there would have to be changes to the code from time to time.

It urges the Government to give the Price Commission the power to launch specific price investigations and for powers to control individual prices.

Income tax: Expenditure-based tax allowances such as those for mortgage interest and a proportion of insurance premiums should not be available against taxable income above the 35 per cent. rate band.

These allowances benefit the higher income groups most. Their abolition for the higher rate bands would broaden the income-tax base while other tax reductions would limit the impact on individuals. The saving would be £175m.-£200m. in 1977-1978.

The TUC seeks an overall tax cut of £1.7bn., or £1.5bn., after abolition of allowances in the upper rate bands.

It suggests a reduced rate band below the present 35 per cent. one, to lessen the "poverty trap" effect and to give an increase in net income to all who pay tax.

A 30 per cent. band on the first £750 of taxable income would give up to 72p a week increase, at a cost of £570m. A 25 per cent. band on the first £500 would give up to 96p a week at a cost of £1.16m.

The Chancellor should also increase tax allowances to help those at the bottom end of the scale. A £100 increase in the threshold would give a married man with two children paying tax at the standard rate, 67p-a-week increase at a cost of £830m.

A £75 increase in the threshold would cost £600m., for a 50p-a-week increase in net income.

Another suggestion is for the Chancellor to make National Insurance contributions tax deductible.

Tax relief

Tax Relief on National Insurance contributions would give increasing percentage and cash amounts up through the tax scale. In line with the suggestion on expenditure-based allowances, the TUC says the maximum relief here could be limited to £211.

Tax-free National Insurance contributions would cost about £1.15bn. a year and would give the married man with two children on £70 a week a net income gain of 2.4 per cent. or £1.41.

The TUC sets out three options for realising a total income tax cut of about £1.7bn.:

1 A £750 reduced rate band at 30 per cent. and a £100 increase in the married man's allowance;

2 A £500 reduced rate band at 25 per cent. with a £75 increase in the married allowance;

3 A combination of tax relief on National Insurance contributions and a £75 increase in married allowance.

If National Insurance contributions are not to be tax allowable then the Chancellor should set in advance that those in the new State occupational pension scheme would not be less favourably treated than those in private schemes.

Earnings-related supplement should be extended for a period of up to a year, at a cost of £30m. The waiting time for long term supplementary benefit should be reduced from two years to one, at a cost of £35m.

There should be an early increase in pensions giving £4 more to a married couple, and £2.50 to a single person.

The TUC accepts the need to talk to the Government about pay and collective bargaining.

Listing the priorities for any future pay deal set out in last year's TUC Congress Resolution, the review adds: "If a return to normal collective bargaining were set against a background of accelerating inflation and economic stagnation . . . it could lead to almost as many strains within the trade union movement as the imposition of an unacceptable and rigid pay policy."

APPOINTMENTS

Sir Michael Herries joins National & Commercial Banking

NATIONAL AND COMMERCIAL BANKING GROUP has made Sir Michael Herries joint deputy chairman of the holding company. Sir Michael has been chairman of the Royal Bank of Scotland since October 1976

★

Mr. Ian Gravener has joined the Board of GEORGE DOLAND and becomes joint managing director. With re-structuring in progress, Mr. H. Peter Hart, non-executive director, has resigned

★

Hepworth Ceramic Holdings has made Mr. Donald Watson executive vice president of its wholly owned U.S. subsidiary company, HEPWORTH CERAMICS INC. Mr. Watson is at present managing director of Hepworth Plastics. At the same time Mr. David W. Russell becomes managing director of Hepworth Plastics in succession to Mr. Donald Watson.

★

Mr. John H. Hedges has been appointed an executive director of LOEB RHOADES INTERNATIONAL.

★

The new air officer commanding-in-chief, RAF Strike Command and commander-in-chief, U.K. NATO air forces is to be Air Marshal Sir David Evans. Currently vice-chief of the air staff, he will take up his new appointment on March 26, with the acting rank of air chief marshal. He will succeed Air Chief Marshal Sir Nigel Maynard who is retiring from the service. Sir David will be succeeded as vice-chief of the air staff by Air Vice Marshal Peter David George Terry on March 25. Air Vice Marshal Terry is currently assistant chief of staff (plans and policy division) at supeme heaquarters allied powers Europe.

★

Mr. John Ormiston, managing director of P. Ormiston and Sons, has been elected president of EUROPMI—the organisation responsible for the formulation of proposals concerning small and medium sized businesses in the EEC.

★

Mr. Andreas Whittam Smith, present editor of the Investors Chronicle, is to succeed Mr. Kenneth Fleet as City Editor of the Daily Telegraph, who is leaving, the newspaper announced yesterday. Mr. Clifford German, Deputy City Editor, will become Associate City Editor and Mr. John Davies, assistant to the City Editor, will become Deputy City Editor.

★

Mr. Keith Turner has joined CARLESS SOLVENTS, a subsidiary of Carless Capel and Leonard, as distribution director.

★

Mr. R. J. Foskett has been appointed secretary of the AUSTRALIAN MUTUAL PROVIDENT SOCIETY. Mr. Foskett succeeds Mr. J. T. C. Hurley who has retired after 45 years with A.M.P.

HOME CONTRACTS

Bowmaker £2.5m. machinery order

BOWMAKER (PLANT), Cannock, Staffs., has received an order from Western Excavating (EEC), a subsidiary of English China Clays, of St. Austell, Cornwall, worth £2.5m. for the supply of Caterpillar earthmoving equipment. This will be used mainly in over-burden removal and in the extraction of china clay from the Cornish clay mines of the parent company.

★

REDLER CONVEYORS, Stroud, Gloucestershire, part of the Brockhouse Group, has been awarded a contract for the supply of process plant to Mimton and Fison, Stowmarket, Suffolk, for a new malting plant.

★

STANDARD TELEPHONES AND CABLES has won an order worth more than £80,000 for the supply of transmission equipment to expand British Rail's communication network. One part of the order is for multiplex equipment at Nottingham to increase facilities being provided under a total operations processing systems (TOPS), which enables BR instantly to locate any of its freight wagons. Multiplex equipment will also be installed at Port Talbot and Swansea, to provide circuit access.

★

WRIGHT AIR CONDITIONING (SCOTLAND) has been awarded a £80,000 contract by Polaroid (U.K.), Dumbarton, for the supply and installation of an air conditioning system and associated electrical works at a new computer suite at its head offices.

The Executive's and Office World

EDITED BY JOHN ELLIOTT

David Fishlock looks at the development of teaching companies as a means of training engineers while **Sue Cameron** describes how GEC has adopted this concept for its own particular use

Universities in industry

THE IDEA of using teaching companies to train engineers, in much the same way as teaching hospitals train doctors, is the brainchild of Mr. Theo Williamson, former research and development director of Molins, the cigarette manufacturing machinery group.

A teaching company, to quote its inventor, should be "the engineering equivalent of a teaching hospital, where experienced practitioners, researchers and students intermingle and cross-fertilise ideas," while working in industry.

The idea has fired the imagination of the Science Research Council, with its £112m. budget this year to be used for university research in the physical sciences. Under the chairmanship of Sir Brian Flowers, and more recently Sir Sam Edwards, the SRC has worked energetically to build up the national research effort in engineering sciences, even though this has meant sacrificing "pure science" projects requiring new satellites and telescopes, for example.

A year ago the SRC, in collaboration with the science secretariat of the Department of Industry, launched the teaching company scheme. The scientists combed industry for manufacturing companies receptive to new ideas, particularly the idea that scientists might have something original to offer the production line. They chose companies and began to introduce postgraduate university students to work on specific problems. All these problems are directly concerned with investment decisions and the organisation of production methods and control.

Pilot projects

The first "school report" has just come before the council of the SRC. The upshot is that the two sponsors are talking of putting as much as a year behind about a score of pilot projects by the early 1980s.

To the five university departments of production technology involved in the scheme the idea has brought a relevance to real industrial problems which was previously often lacking. For the participating companies it has brought help of the kind which British industry has been finding it almost impossible to attract in recent years.

The teaching company scheme starts from the premise that "in production engineering, the laboratory must be the factory," according to Mr. Tony Eggington, who is responsible for the £13m. engineering sciences budget at SRC. The scheme falls short of Mr. Williamson's vision of a "Cavendish Laboratory of manufacturing technology" with the modern counterpart of Lord Rutherford in charge to draw in the brightest engineering graduates in Britain.

He had dreamed of a teaching company set up from scratch, "seething with creativity," making and marketing real products, using the most ingenious technology and the most astute management practices. But the scheme's sponsors believed this to be too ambitious a start, would take too long to get going, and would encounter too much opposition along the way—not least from any company which might see it as a competitor.

"It just wouldn't work—it's too artificial," says Dr. John Wallace, the motor engineering consultant who has been acting as director of the existing scheme. Industry, particularly manufacturing industry, is very complex, says Dr. Wallace, and it is all too easy to oversimplify matters in trying to model it.

He sees the scheme more as an attempt to emulate the success of the business schools over the past decade, by creating a national climate of opinion which believes that close association between industry and universities can be invaluable to both. As a result industry should attract better people, and the universities should undertake research of genuine relevance to its problems.

GEC is pleased with the first year's results. The company has had considerable difficulty persuading graduates to go into production management, particularly those who were fairly well qualified, says Mr. Frank Gibbs, managing director of GEC Switchgear. "It's nonsense" he says in exasperation, "we can lose a lot of money if we don't have a high level of competence."

Mr. Gibbs runs a factory at Trafford Park which, as a consequence of the big electrical industry mergers of the 1960s, has become something of a jobbing company for switchgear. He wanted to replan the whole operation, to involve some 1,500 people, and was prepared to invest several million pounds. In fact, his company has been under-investing, he says, because it could not find the people.

CompAir Industrial, Britain's biggest makers of pneumatic equipment, is delighted too. "We're getting some good fundamental work done at the Government's expense," says Mr. Peter Bonner, managing director of CompAir's Broomwade works at High Wycombe. He liked the businesslike way the scheme had been presented.

Re-think strategy

In association with the department of production technology at Aston University, he has set three teaching company associates to work on one of the investment projects from his corporate plan, namely to re-think company strategy on spare parts. In most companies spares are the first to suffer as soon as the market begins to pick up. He would like to see the manufacture of spare parts separated from main production lines. He has set his graduates to sift out the options and define the pitfalls—the breaking points of their schemes.

"Everyone wants it to work—and from our point of view we can see it paying off," says Mr. Bonner. A successful strategy for spares might well be applicable to manufacturing industry generally, he feels.

He has been so impressed that he plans to use teaching company associates on another project from the company's corporate plan: to devise new systems for keeping management informed at Broomwade. But he stresses that he still has the final word on whether a given scheme is to be implemented, and the right to censor commercially sensitive information should the scientists want to publish their findings.

At Manchester University Institute of Science and Technology (UMIST), Professor B. J. Davies is responsible for the biggest of the five company/university collaborations so far. Formerly technical director of Staveley Machine Tools, Professor Davies enrolled, as postgraduate students, three graduates from Platt Saco Lowell of Rosendale, makers of textile spinning machinery.

All three are expected shortly to be awarded an MSc. Their projects—"no paper exercise but central to the company's requirements"—have embraced value engineering (performance at lowest overall cost) on new machines, quality assurance, and production scheduling in Platt's foundry. "I think we can say they have all been successful both in the eyes of UMIST and in the eyes of the company," he claims.

Last October Professor Davies took on a further five teaching company associates who are engaged in preliminary studies at UMIST before starting on Platt projects in May.

Perhaps the strongest evidence that the scheme is working, however, is that he already knows that when he is interviewing prospective teaching company associates in future he will have the pick of those with excellent talent. There are ten or more applicants with first class honours. "It's going to be a question of rigorous selection."

The next stage of the programme, beginning this year, should show whether the scheme is bold enough for scientists to make any impact on what Sir Alan Cottrell, former chief scientific adviser to the Government, has recently described as Britain's Cheshire Cat economy. ("Like the Cheshire Cat our earning capacity is slowly vanishing, beginning with the end of the tail and ending with the grin, which we can at least hope will remain for a little while after the rest has gone," was how Sir Alan put it.)

Talent and flair

The Government must find enough cash to keep the programme growing and the sponsors will need a full-time director who, if not the Lord Rutherford of production engineering, at least has the talent and flair to inspire first-class students—which may call for a salary twice as high as the Department of Industry believes it can get away with. There is also the problem of whether the academics can prove equal to the increasing demands for original ideas. Because of such problems, the time may come when the National Enterprise Board should be brought in. It may be able to produce a company, in Theo Williamson's words, "seething with creativity"—which could be transformed into a full-scale teaching factory and a worldbeater at its own trade.

Practical graduate training at GEC

Leonard Burt

Mr. Theo Williamson (left), originator of teaching companies, and Professor Alec Chisholm, of Salford University, who aroused GEC's interest in them.

SIX YEARS ago senior managers at the GEC Switchgear plant at Trafford Park did some research into future staffing needs and found that they were "frighteningly" short of young, up and coming engineers.

The engineers on whom the company relied were nearly all in the 50 to 60 age group and there were few young men who could replace them. One reason for this was the economic squeeze of the mid-1960s which had led many bright, young engineers to leave manufacturing in search of more remunerative jobs.

GEC Switchgear itself was only just beginning to emerge from a long and difficult period of retrenchment. The 1960s had seen a huge drop in demand from the home market and the number of people employed at Trafford Park had fallen from 23,000 in 1958 to only 7,000 in 1971. During the period of recession, the budget for the recruitment and training of young engineers had been one of the first items to be cut.

But by the beginning of the 1970s, business was picking up again because of an expansion into overseas markets and the company decided to take the opportunity to rethink its policy on the training of manufacturing engineers. One outcome of this is that GEC Switchgear is among the first engineering teaching companies.

The idea of a teaching company is that graduate engineers should have the chance to learn about the practical problems of manufacturing, such as man management and cost limits, while also learning how to apply the theoretical knowledge they have acquired at university. They are tutored by senior, practicing engineers in the teaching company itself in much the same way as junior doctors are taught by consultants in a teaching hospital.

GEC Switchgear is collaborating with Salford University and has appointed a project adviser to supervise the trainees and to co-ordinate the factory side of the operation. The trainees also report to a course tutor at Salford University who looks after academic matters such as pure engineering problems. The successful trainees will receive Masters degrees at the end of their period with GEC, but this does not mean that the work done in a teaching company is largely theoretical.

The trainees are given live projects to work on and GEC Switchgear hopes that the work they do will help to improve the company's efficiency. The first trainee at Trafford Park, for example, is working on a project to improve the factory's layout.

At present the Trafford Park factory is in the midst of a complete re-organisation. Seven years ago exports accounted for only 20 per cent. of GEC Switchgear's total production but to-day the proportion is 80 per cent. Much of the electrical equipment made by the company goes to developing countries which cannot afford the more expensive products that were made formerly for the home market. The aim of giving a trainee a project on production layout is that he should produce some practical ideas for cutting costs. The company is not interested in vague, academic suggestions but wants some hard proposals that can be put into effect.

Plenty of scope

The company and the university want to give the trainees projects which offer plenty of scope while not being too much for their capabilities. The plan is that each project will last between 18 months and two years. Once he has finished his project, a trainee will have no further commitment to GEC Switchgear although the company hopes that some of the young engineers will ask if they can stay and work at the factory.

Eventually GEG Switchgear and Salford University hope to have between six and eight trainees but the whole teaching company scheme is still in its infancy and the experiment will have to be assessed, before final numbers are fixed.

So far over 160 graduates have applied for the GEC traineeships which carry salaries in the region of £3,500. The company has had almost as many applications for the post of project adviser which suggests that the scheme has aroused considerable interest among practising engineers.

Professor Alec Chisholm, who aroused GEC Switchgear's interest in the teaching company idea says that one of the biggest pay-offs of the scheme could be an eventual improvement in the status of engineers. Professor Chisholm, of the mechanical engineering department at Salford University, points out that only about 6 per cent. of British engineers go into manufacturing while in Germany the proportion is 18 per cent.

He thinks that one reason for this is that practical engineering has not been taught at a sufficiently high level in Britain. Yet in the rest of Europe university engineering courses include a strong practical element and in France, for example, the grandes écoles are all technologically oriented. As a result, practising engineers have much higher social status than they do in the U.K. It is therefore comparatively easy for France and Germany to attract the best people into manufacturing engineering.

Yet in Britain, until recently, practical training for manufacturing engineers has been a hit and miss affair. Graduates went into companies for several years to learn the practical side of the job but the standard of help and support they received from practising engineers varied enormously.

Some companies have run effective graduate training schemes and Professor Chisholm says GEC Switchgear was among these. But senior managers at Trafford Park say that if the teaching company project is successful, then it will prove to be better than the old system of sending young engineers from one department to another within the company. They say that because trainees in a teaching company learn by doing a real job of work both the company itself and the young engineers will benefit far more.

The managers at GEC Switchgear believe that other bonuses could arise for them from the teaching company scheme. They think that the close relationship they have now established with the mechanical engineering department at Salford University could prove extremely useful. They also say that explaining the GEC Switchgear systems to trainees is an excellent discipline for the senior staff in the company.

Foreign managers

A BIG INCREASE has taken place in the number of managers from Commonwealth countries being trained in Britain, according to the Institution of Works Managers. The growth is highlighted in a paper which has just been published by the Commonwealth Foundation and, quantifying the growth, it gives as an example an increase of almost 100 per cent., from 918 to 1,785, in the number of overseas members of the institution in the past four years.

The increase has been the result of a joint venture by the Commonwealth Foundation and the Institution of Works Managers. The development, according to the paper, has been highlighted following advisory visits by the foundation to Singapore, Malaysia, Malta, Jamaica, Trinidad, Tobago and Nigeria.

The report maintains that because of the variety, versatility and practical and academic qualities of the courses set by the institution, the certificate, diploma and advanced diploma of the institution can be readily used in other countries.

Mr. C. J. Benson, general secretary of the institution, describes the collaboration with the foundation as "extremely valuable." He feels that it makes both a positive contribution to higher standards of management and to "establishing and maintaining a link between those overseas managers and the U.K. via their membership of the institution."

Business courses

Social Science in Industry, Brunel University, Uxbridge, March 1. Fee: £50. **Organisational Survival**, Brunel University, March 18. Fee: £50. Details from Brunel University, Uxbridge, Middlesex, UB8 3PH.

Financing International Trade, Royal Garden Hotel, March 1-2. Fee: $525. Details from AMR International, 6-10, Frederick Close, Stanhope Place, London W2 2HD.

Law for Office Managers and Administrators, Piccadilly Hotel, March 1. Fee: £50, plus VAT. Details from ASM, 5, The Parade, St. John's Hill, London SW11 1TG.

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MONDAY, FEBRUARY 28, 1977

Little room for choice

IF THE Government's present economic policies should ultimately fail, it will certainly not be for lack of advice—nor, more recently, for lack of broad support. Today two careful analyses appear which come much closer to endorsing the Government's present policies than would have been likely from such sources—the TUC, and an impressive list of economists specialising in policy matters—at any time until recently.

The sheer necessities of trying to reduce inflation without causing a deeper recession than that necessarily entails has constrained policy to a path from which only narrow deviation now seems possible.

Hopeful sign

While nobody—not even those responsible—pretends to any great enthusiasm for present policies, the new consensus is on the whole a hopeful sign. It is because present policies are at last beginning to hold out a reasonable prospect of some positive results, starting, in a few weeks, with a tax-cutting Budget, that criticism is now directed to detail rather than to basic strategy. There is less heard of desperate measures: the economists reject extreme monetarism, and the TUC, although it still hankers after sectoral protection, is no longer suggesting anything which could be called a siege strategy. If there is some hope, there is more resignation: it is acknowledged that recovery will inevitably be slow and halting, and that the struggle to restore a sound currency will involve further restraint and discomfort all round.

The economic panel, which includes two retired economic advisers to the Government, Sir Alec Cairncross and Mr. Michael Posner, sets out the basic constraints in the new issue of the Midland Bank's Review. In the dilemma imposed by inflation, the Government cannot pursue what have become traditional counter-cyclical policies. Wage-price restraints, despite the problems they pose, are seen as necessary to make it possible to check monetary growth in a politically acceptable way. The group favours what it calls "enlightened monetarism," based on planned objectives for public sector borrowing on some form of full-employment correction, or rather on a reasonably achievable growth path; but once such an objective is set, they still see some merit in allowing the automatic stabiliser of a higher deficit resulting from lagging growth to come through. So long as such a deficit can be financed outside the banking system, it will not hurt.

This suggests that provided a reasonable monetary target is achieved, it would be a mistake to treat as sacred target figures for public sector borrowing or even, in certain circumstances, for domestic credit expansion, which may be consistent with expected rates of growth and progress with the balance of payments. But after no "escape clause" in face of unexpected developments. This suggestion is coupled with a warning that cuts in public expenditure, while certainly helpful up to a point, are not panaceas and are themselves likely to be deflationary, since not all the resources released by the public sector are likely to be taken up by the private sector.

Exchange rate

This advice, with its very cautiously expansionary implications, provided always that price-income restraint is maintained, is close to the medium-term assessment offered last week by the National Institute and probably also to the official advice being offered to the Chancellor. The disagreements which remain are mainly about how to use the restricted freedom available. Thus, while there is general agreement that the first priority is to cut income tax, the TUC is rather more modest about the scale of the cuts than was the CBI last week, though equally and understandably concerned to favour its own membership.

However, consensus is possible without unanimity, or anything approaching it; and the assessments now coming forward suggest a substantial common ground in realism. This agreement is the best basis for a slow restoration of confidence, both in the prospect and in official policy.

Soares takes the plunge at last

AFTER MONTHS of hesitation Sr. Mario Soares has finally acted to save Portugal from economic and financial collapse. Although he has introduced his package of austerity measures, including a 15 per cent. devaluation of the escudo, rather earlier than some people had expected, it had become increasingly clear in recent weeks that he could afford to delay no longer. Sr. Soares knows as well as anyone in his country that his minority Socialist regime will only be tolerated by the Armed Forces if it succeeds in tackling Portugal's devastating economic problems. The Prime Minister must have been fully aware of the mounting impatience at his failure to act. His decision is particularly important in that it is not only his Government but the democratic future of Portugal that is on trial.

Outside aid

The economic pressures on Sr. Soares are severe—with inflation at 20 per cent. or more, the balance of payments deficit running at an annual rate of $1.3bn. and unemployment at 17 per cent. of the active labour force. Although the country still has sizeable gold reserves it is understandably loth to spend them and its supplies of foreign exchange are virtually exhausted. The fact of the matter is that the country cannot survive without outside help, and Sr. Soares's package has clearly been framed with this in mind. No specific conditions, other than a general understanding that action would be taken, were attached to the emergency $300m. U.S. loan agreement signed in Lisbon earlier this month. But the IMF team that recently visited the country made a series of detailed recommendations, which Sr. Soares has gone some way to meet.

Many of the Government's measures — price controls, higher interest rates, the devaluation itself — coincide with the conditions the IMF is expected to impose in return for the drawing Portugal wants to make within the next two months. The Fund's experts recommended a bigger devaluation but Portuguese economists argue, with some justification, that the country's trade structure is so inflexible that the main effect would be to boost the import bill still further without a compensatory impact on exports.

The latest measures, though a step in the right direction, are not going to be enough in themselves. Sr. Soares still faces the urgent tasks of unscrambling the chaos left by haphazard agrarian reform, drawing up new rules for public and private investment and, as he himself has so often stressed, generally getting the country back to work. He also has the difficult job of establishing some kind of social contract by enforcing the 15 per cent. wage ceiling he has set for this year. His problem is to do so without overly antagonising the Communist Party to his left or the armed forces to his right.

Sops to Left

So far the reaction of the Communists to the Government's package has been guarded. In addition to price controls, the measures contain a number of sops to the Left, such as higher unemployment and social security benefits. The Government's hope must be that its policies will obtain wide enough popular support to outflank any Communist attack on them, despite the Communist Party's stranglehold on the trade union movement.

Portugal's future as a member of the club of Western democratic nations depends very heavily on the solution of its economic difficulties. If Sr Soares cannot cope, there will be increasing pressure from the Right for a return to more authoritarian rule.

THE GOVERNMENT'S EXPENDITURE PLANS

ECONOMIC VIEWPOINT

BY SAMUEL BRITTAN

The strains begin to show

WHEN PART I of the Public Expenditure White Paper was published at the end of January, I wrote that public expenditure was under control as it had not been for many years. Part II of the Paper, published on Friday, does not invalidate this assessment, but does underline how precarious the achievement still is. *It also shows that the* degree of success so far has been mainly due to the Treasury's new system for enforcing existing plans and to curbs decided upon in the first half of 1976. The "cuts" made in Mr. Healey's package on December 15 were very small beer and hardly appear to justify the Cabinet dramas we saw reproduced on television.

Rising trend

Moreover, the decisions made then did not touch the plans for 1979-80 and 1980-81. Most of *these are listed in their original* form in the present White Paper. Public spending in 1976-77 is estimated to be only 1.3 per cent. higher than in the previous year, measured at constant prices. It is actually expected to be below this level in the next two years. But the plans listed in Part II of the White Paper will be sufficient to put public spending on a markedly rising trend by 1979-80. Listed items amount to an increase of £1bn.; and for some parts of public spending no estimates are yet given.

If the totals are to be kept under control, some fresh Ministerial decisions will soon be needed. *In spite of the fashionable* emphasis on the short term and the immediate, it remains true that the worst items of excessive spending have their origin in policy decisions made several years before the event.

From now on, all the pressures will be on the spending side, in spite of the Chancellor's desire for so-called tax cuts. The approach of the next election, the sterling turnround and the increased impact of North Sea oil will all be increasing the pressure to apply stimulants where they are most obvious—that is, in specific industries and areas. Mr. Gerald Kaufman, Minister of State for Industry, has already declared prospective developments in shipbuilding to be "unacceptable" and has taken £65m. out of the contingency reserve to offset them.

The new White Paper has a revealing table on page 148, which tells a great deal about the nature of the December public spending cuts. They amount to £1.2bn. at 1976 survey prices. Of this, only £161m. comes off public current spending. Subsidies and grants—where cuts would cause political trouble—were reduced by only £67m. Capital spending, on the other hand, was cut by £417m., which means that to the extent that jobs are lost as a result of the package, they are likely to be in the private sector.

But the biggest slice of all comes from "other transfers," notably the elimination of the regional employment premium and the sale of BP shares. These may help to keep the borrowing requirement down, but will not reduce the share *of national resourses employed* by the State in any meaningful sense. In fact, the sale of BP shares, if it takes place, should count as a revenue item, as it would, in all probability, in most other countries.

Suspicious dip

One's worst suspicions are confirmed by Chapter 4 on trade, industry and employment. Expenditure here looks at first glance as if it is to fall by over £900m. from £3.1bn. in 1976-77 to £2.2bn. in 1977-78. But of this reduction, £500m. is due to BP and nearly £200m. to the ending of the Regional Employment Premium. There is also a suspicious dip in regional development grants, which rise again sharply in the following year.

The balance of the whole industrial programme is now tilted even further away from general payments, made on known criteria, towards discretionary support for favoured companies by Government departments and the NEB. It is, therefore, all the more deplorable that this chapter—*which is the core of the industrial strategy* — contains no explanation at all of the principles underlying this selective expenditure. It is mainly a list of figures on a take-it-or-leave-it basis. (The taxpayer leaves it; the recipients take it.)

If control over public spending is to be retained and the progress of the past couple of years not thrown away, two vital steps are necessary. The first is to think and talk about tax changes in a form which allows for inflation, even if the Chancellor and his advisers continue to turn deaf ears to the overwhelming case for indexing tax rates. To be quite precise, we need to create an atmosphere where the Chancellor cannot be allowed to get away with claims of tax cuts, if all he does is to reduce the rate of increase of the burden. A 15 or 16 per cent. increase in all personal allowances and *the starting points of the higher* rates is required simply to prevent the tax burden from rising higher than it was a year ago. On Treasury figures this should cost £1.5bn.; and this figure should be subtracted from any sum of personal reliefs proclaimed at Budget time.

There should be no need for an annual propaganda campaign *to persuade Chancellors to give* an honest presentation of what they are doing or to protect the public from being misled by concealed tax increases or false reductions. In the Netherlands a law passed in 1971 requires at least 80 per cent. indexaton of *personal income tax thresholds* to counteract the effects of inflation. This is a first claim on what the Dutch call the "budget margin"—which is the fiscal dividend provided by an excess of revenue over existing spending plans.

In Denmark personal allowances and the rate of progression are both indexed to wages. Thus the starting point of progression are independent not only of inflation but of real growth. The tax rates are laid down in the annual budget as a percentage of a stated scale. So there can be no question of indexation depriving governments of their room for manoeuvre, as is alleged by official opponents in the U.K.

Secondly MPs and other commentators really must continue pressing the Treasury to publish expenditure and taxation projections side by side. This is still not done in the present Public Expenditure White Paper. The figures given at the time of the Budget cover only one year and are published after the public expenditure decisions have already been announced and debated.

The Treasury has presented to the Expenditure Committee an excellent summmary of practices in other countries but it has drawn misleading conclusions from its own evidence. Three of the five countries do publish revenue projections, and a fourth, France, gives a very good indication in terms of the proportion of GDP going in various forms of tax.

The general impression is that the methods of other countries are messier, but more sensible. This may account for the tone of slight condescension which creeps in to the description of French and German preoccupation with budget balance, a preoccupation which does not prevent deficit finance in recession. Another practice of the lesser breeds is to present their budget accounts in such a way as to show the most favourable picture rather than the most horrifying deficit. Altogether one is left with a picture of doctrinaire Englishmen, adhering consistently to a doubtful logic, and more pragmatic Continentals cheerfully adjusting to changing events. The Americans try to combine Continental flexibility with better theory than the U.K.; and although they may not quite succeed, the process of budget making is more transparent and deprived of its mystery.

Unique system

It is beside the point to say that the revenue side does not represent "firm commitments" in these countries. The need is not for commitments, but for an indication of the implications of present policy. Then if the Budget balance is unsatisfactory or the tax requirements appear too heavy, adjustments can be made; and the likelihood of these can be seen when the public spending plans are published. This makes it possible to have a more sensible public discussion.

Nor is it an objection to say that other countries' projections tell us nothing about "the fiscal stance" of policy. If we are to have demand management at all the last thing we want to do is to try to guess whether there is going to be a slump in a few years' time which will allow the Government to run an abnorm deficit. In planning pul spending the need is for estimate of the consequen of decisions for a normal y when Government borrowing not distorted by business cy influences.

It is even less an object to say that the U.K. is uni in its system of public spend projections in real te several years ahead. Most ot Governments seem to make guess at the future rate inflation, for both expendit and taxation purposes, then to make adjustme *ambulando*. It is not obvi that they have done worse these methods.

Investment incentives

The Americans have developed the idea of " expenditures." These are reli such as investment incenti for companies or mortgage c cessions for individuals, wh could just as well have tal the form of cash expenditu and are just as much a cha on the public finances. S tax expenditures were e*mated in 1975 to be equival* to some 25 per cent. of to Federal expenditure.

In Germany the tax reve forecast is made before expenditure total can decided, as the Government legally bound to show to Par ment how it proposes to fina expenditure. Borrowing is o permissible for capital exper ture, although the pragma Germans have special reser which permit quite la deficit finance during recessi

But there is no need for British Government to aban its present type of spend projection just to fit in so revenue estimates. All it ne to do is to assume the inde tion of all taxes, direct and direct. This need not imply commitment actually to inc them. It is simply a neat way publishing tax projections wi out having to make a gu about the rate of inflation.

Nor would there be any co mitment either to maintain to reduce the tax burden show The exercise would simply sh the inter-relation betw spending, revenue and pu *sector borrowing at some c*onventional level of econo activity. Unfortunately, Treasury seems to think t because there are difficult and imprecisions in any su exercise (as in the figures already does publish) it is worth undertaking at all.

It is a pity that the Pu Expenditure Committee allowed itself to be diverted i Civil Service matters—and i the trap of Whitehall reorga ation. It should return revenue and taxation as soon possible; and the rest of need to keep up the chase.

THE GERMAN MIRACLE - SPENDING AND REVENUE TOGETHER

(DM billions)

	1975 budgeted	1976 est.	1977 (Planned)	1978 (Planned)	1979 (Planned)
1. Expenditure					
1. Total, *of which*	161.46	168.09	173.2	185.3	195.2
2. Exp. on capital account	29.05	26.47	26.8	26.3	25.6
2. Revenue					
1. Taxes	117.00	125.50	147.1	162.8	178.7
2. Admin. receipts	3.60	3.71	4.1	4.7	5.2
3. From reserves	2.35	—	—	—	—
4. Other	0.60	0.30	0.2	0.2	0.2
5. New debt	37.91	38.58	21.8	17.6	11.1
6. Total receipts	161.46	168.09	173.2	185.3	195.2

Source: Federal Ministry of Finance, Bonn

THE NATIONALISED SECTOR

A better performance

FINANCING THE NATIONALISED INDUSTRIES: 1976-77

	Capital Requirements* Forecast £m	Capital Requirements* Est. Outturn £m	Internal Financing† Forecast £m	Internal Financing† Est. Outturn £m	Cash Limit‡ Forecast £m	Cash Limit‡ Est. Outturn £m	Difference £m	Self-financing Ratio§ 1975-76 %	Self-financing Ratio§ 1976-77 %
National Coal Board	390	413	101	50	289	363	+ 74	12	12
Electricity—									
England & Wales	885	800	535	625	350	175	−175	49	78
N. Scotland	110	113	13	15	97	98	+ 1	14	13
S. Scotland	94	90	48	49	46	41	− 5	57	54
British Gas Corporation	316	362	352	428	− 36	− 66	− 30	59	100
British National Oil Corporation	323	297	23	15	300	282	− 18	9	5
British Steel Corporation	985	1,085	35	135	950	950	0	0	12
Post Office	1,247	1,209	912	993	335	216	−119	67	82
British Airways Board	194	173	81	148	113‖	25	− 88	44	86
British Airports Authority	42	39	30	34	12	5	− 7	59	87
British Rail	175¶	132¶	−434	−425	609	557	− 52	0	0
British Transport Docks Board	18	16	18	23	—	− 7	− 7	100	100
British Waterways Board	2	2	− 10	− 9	12	11	− 1	0	0
National Freight Corporation	50	33	− 8	− 16	58	49	− 9	0	0
National Bus Company	43	45	19	21	24	24	0	0	47
Scottish Transport Group	9	10	3	4	6	6	0	29	40
Allowance for Shortfall	−200	—	—	—	—	—	—	—	—
TOTAL	4,683	4,819	1,718	2,090	2,965	2,729**	−236	25	43

* *New investment, increased working capital, etc.*
† *Net surplus, depreciation and other provisions, asset sales, and other capital receipts.*
‡ *For all external financing—Government grants, subsidies, and loans, other borrowing, leasing.*
§ *Estimated outturn.*
¶ *Excluding BR investment financed by passenger transport and local authorities (about £48m.).*
‖ *Subsequently reduced to £97m.*

**Of which:	£m.
Government grants and subsidies	694
Government loans	314
Public dividend capital issues	480
	1,488
Leasing	95
Short-term borrowing	146
Foreign borrowing	1,000
	2,729

THE NEW treatment of the nationalised industries in this year's White Paper is essentially a change in presentation: but it is both more logical and provides greater clarity and, for that, it is doubly welcome.

Previous White Papers simply set out the industries' capital programmes and then counted them as part of total public expenditure irrespective of the extent to which they were being financed from the industries' internal resources and thus of the extent to which they did not in fact represent a claim on the exchequer. It was only by dint of searching through umpteen other official publications that it was possible to establish, first, the industries' total capital requirements for extra working capital as well as new investment; secondly, how much they were expecting—*and had managed*—to finance those requirements from within or by borrowing from the private sector or from abroad: and thus, finally, the nationalised industries' total direct claim on the public purse in the form of grants, subsidies, loans, and new issues of public dividend capital. The new presentation brings all these figures together and at the same time indicates how the new system of cash limits, as applied to the nationalised sector, is working—which, all in all, is a decided advance.

The improvement is more retrospective than prospective, however, and probably inevitably so. Investment forecasts are hazardous enough, what with programme slippages, changes in demands prospects, and notwithstanding Mr. Healey's undertaking to the nationalised industries 18 months ago—periodic public spending cuts. It is even harder to forecast revenue, asset sales, and the probable split between government, private sector, and overseas borrowing. Although the latest White Paper sets out figures for 1977-78 as well as this year, we are warned to wait for an *updated version which will appear*, together with the cash limits that are to apply next year, in the Financial Statement accompanying the Budget next month following further discussions with each industry.

Nevertheless, the picture emerging at this stage is of a further marked improvement in financial performance following the restoration of commercial pricing policies. The sector as a whole is expected to meet 43 per cent. of its total capital requirements from its own resources this year, as against 25 per cent. last year, and a further improvement to 53 per cent. self-financing is tentatively indicated for next year. By then three industries—the Post Office, British Transport Docks, and the Gas Corporation—are expected to be wholly self-financing.

Indeed, the current drive for profit maximisation in the State sector sits rather oddly with the curmudgeonly attitude which is still generally displayed by the Government towards the equally necessary recovery in profitability in the private sector. One finds, for example, that the Gas Corporation was doing sufficiently well *to start paying off some of its* capital debt even before Ministers ordered a further 10 per cent. increase in gas prices this spring. As a result the corporation is now likely to pay off almost as much debt next year as it may be spending on new assets. Even more remarkable is the new financial target which has been set for *the Post Office telecommunications* business: this State monopoly, which made a £155m. profit last year and is expected to turn in a "substantially higher" figure this year, has been charged with achieving a real return on capital employed of 6 per cent., no less, in each of the three years 1976-77 to 1978-79.

The sector's improved profitability has been accompanied by a decline in the real level of investment spending. The nationalised industries have thus had little difficulty either in reducing their overall contribution to the public sector borrowing requirement (which covers their foreign borrowing as well as their aggregate claims on the Government) or in keeping within this year's cash limits (which also embrace their private sector borrowing and leasing finance). At this stage a further decline in both PSBR contribution and cash limits is tentatively indicated for next year, although net drawings from the National Loans Fund may be about the same as this year if, as is now being assumed, net foreign borrowing is lower.

Colin Jones

FINANCIAL TIMES SURVEY

Monday, February 28, 1977

Freight Transport Systems

Technological changes have created a wide range of specialised services which have brought down the cost of freight transport. But national systems of regulation within the European Community need to be harmonised if the opportunities for improving efficiency are to be fully exploited.

More routes, more problems

By Colin Jones

'HE MOVEMENT of freight oes not often receive the dis-assionate public attention that 's crucial role in a modern in-ustrial society ought to war-ant. It has been reckoned that bout 8 to 10 per cent. of the ost of production and distribu-on in this country is spent on e movement of raw materials d finished products, and what idence there is suggests that e proportion is not very fferent in other industrial tions.

Yet, though freight transport so makes a significant contri-tion to governmental venues, to the balance of pay-ents, and employs a significant ce of the working population, is not often suggested that e prime purpose of govern-ntal intervention in this sec-: of economic activity should the promotion of optimum source utilisation. Nor, it has be added, do governments emselves always seem to see that way either.

True, the record of recent K governments has been rly laudable. The railways re freed of the old Victorian system of tariff-controls in the mid-1950s. This construction of motorways has been largely based upon the major industrial arterial routes. The ports have been re-equipped since the mid-1960s. The monopolistic system of capacity controls on road haulage were lifted in 1968. And last year's consultation document on transport policy was firmly predicted on the belief that freight transport should be treated as a commercial activity, subject to reasonable regard for environmental and social considerations.

Abroad, too, there are grounds for some optimism. The Ford administration made a brave attempt to open up the whole question of the federal system of regulation of the trucking and railroad industries. The EEC Commission in Brussels has since 1973 tried to point to a more liberal form of harmonisation of national regulatory systems, and even in West Germany and France we have seen moves to ease some of the more dirigiste state controls over road and rail transport.

Allocation

But these developments do not radically alter a picture in which governmental intervention, whether in inland transport or in, for example, international civil aviation, seems traditionally to be more concerned with the safeguarding and reconciliation of conflicting interests than with the promotion of greater efficiency. Nor is it only a matter of regulation.

The amount which governments are prepared to invest in transport—and its allocation—do not always seem to be based upon a careful assessment of the possible economic returns, even at times when public spending is not under especial restraint. The taxation which is levied upon different forms of transport has not been logical, and it is only relatively recently that the idea has developed of basing vehicle and fuel taxation upon the premise that carriers of all modes should be expected to bear their full share of the costs of the infrastructure they use. Similarly, there seems to have been little logical basis for working out speed limits; and few studies have been made of the relation between vehicle construction and use regulations and the effects of vehicle size upon operating costs.

Yet, in spite of all, the freight transport "industry" (if such a term can be used) has achieved a remarkable performance. It has, of course, benefited greatly from the long sustained upsurge in economic activity and world trade between the late 1940s and early 1970s. The output—in terms of ton-miles—of the world shipping and air freight industry rose by an average of 9½ per cent. a year in the 1950s and 1960s and the world output of road and rail carriers increased by 5¼ per cent. a year.

During this period, too, there were marked technological changes. In the shipping industry, we have seen the development of ever larger oil tankers and specialised bulk carriers, and the conversion of most of the world's major deep sea and short sea trading routes to container and other unitised cargo-handling methods. In the air, large specialised jet air carriers are now being operated. On the railways, freight handling systems have been transformed by the adoption of freightliner and other full-train load systems, and by improvements in wagon design, signalling, communications, and motive power. On the roads, unit costs have been reduced in real terms not only by major road building programmes but also by the use of larger, more powerful, and better designed lorries, the introduction of new mechanical handling techniques on and off the vehicle, and by more systematic planning and operating control methods. And pipelines—an entirely new, albeit still specialised freight carrier—have arrived on the scene.

British Rail's export terminal at Harwich.

Above all, perhaps, have been the improvements in efficiency which have been brought about by the close attention which industry has paid to freight transport as an integral part of the whole process of production and distribution. It is not merely that cost savings in transport can make as useful a contribution as saving elsewhere along the chain. It is only by looking at the inward movement of raw materials and other supplies or the outward movement of finished products as an integral part of the whole production process as the pattern of sources of supply or of markets change that the full scope for economies can be judged.

The improvements that have been brought about by the adoption of, for example, bulk material transport and handling methods and containerisation are widely recognised. But there have been as marked developments in the transport, storage, and distribution of branded foodstuffs, clothing, and a wide range of other consumer items, prompted in part by the development of supermarkets, multiple stores, mail order, discount trading, cash and carry wholesaling, and suburban or out-of-town shopping centres.

These developments have all led in turn to the emergence of a far more heterogeneous range of increasingly specialised freight transport services. In inland freight transport, there is now far less competitive overlap between road and rail: the two modes have become complementary. That does not mean that competitive pressure upon freight carriers is any less intense than before. But it does make it increasingly irrelevant to regard transport policy as basically a matter of resolving a road versus rail problem.

Thinking

Fortunately, this point was clearly perceived both by the authors of last year's Transport Policy consultation document in the U.K. and by those who have been endeavouring to shift the thinking (though not yet the reality) underlying the EEC's approach to a common transport policy. The prime objective of policy in the case of freight transport, last year's consultation document stated, is an efficient system providing transport services at the lowest cost in terms of the resources used, but the free operation of market forces needed to be balanced by proper regard for the impact upon the environment.

This caveat opens up a veritable Pandora's box of possible grounds for interfering with the market system, of course. But the outcry against road freight activities, which had been provoked by the attempt to extend the motorway programme into urban areas and by the trend towards the use of larger lorries, seems to be receding somewhat in the face of the practical difficulties of, for example, fashioning a system of lorry routes at a time when the road programme has been slashed back and the growing realisation of what blanket restrictions on lorry use could do to industrial costs and, thus, to prices in the shops.

Within the EEC as a whole, the obstacles to a more liberal approach are rather different. The conflict between the differing national regulatory traditions—and the entrenched interests that lie protected behind them—is still marked, despite the tentative steps some member governments have recently been taking to ease their framework of controls and limit the subsidisation of rail freight services. This, alas, is probably also true of the scope for a progressive opening up of the international—or cross-frontier—market within the Community, where the case for a more liberal approach would seem to be more clear-cut than in the case of harmonising the various national regulatory and financial support systems.

The problem here is that the Dutch road haulage industry, whose efficiency clearly has benefited from having to operate under a liberal control system at home, already has about 40 per cent. of the intra-Community road haulage market. Until the road, rail, and water carriers of other Community countries are in a stronger competitive position, one is likely to see only very gradual progress towards a more open intra-Community inland freight transport market.

Slow recognition of management skills

"WE HAVE a long, long way to go in getting across the message about physical distribution management at all levels of industry in this country." It is the kind of sentiment often and persuasively voiced among those transport executives who fear that Britain's distribution needs are still changing much faster than the systems designed to serve them.

It is not surprising really that the British, with their innate resistance to substituting seat-of-the-pants intuitions for systems, especially systems capable of being taught in universities, have not warmed to such a concept. For a start it is an ugly term and a bit misleading in its inclusion of the word "physical," which seems to suggest a parallel notion (yet undiscovered so far as I know) of metaphysical or spiritual distribution management.

But saving the academic air of the theme, there are signs that the effective transport manager (to stick to his old title) is increasingly taking wider perspectives on his role and becoming more ambitious in the influence he feels he can legitimately assert within his company, be it manufacturing, retailing or even professional road haulage.

As is invariably the case, this gentle and gradual conversion is not a result of persuasion from American textbooks, but of necessity. Transport, so closely linked to energy costs, has not only become more expensive, it has had to adapt to transformed marketing and production conditions. Every industry, in fact every company has its own example, but one need only consider the consequences for a distributor in, for example, the appearance of the electrical goods cash and carry retailer, or the trans-European production and assembly of motor vehicles.

Distribution

Superimposed upon this tapestry of change, the recession has served to concentrate minds. It is not just a simple question of cost cutting, although that is important, but a matter of devising a distribution system which will marry in with the most efficient production methods possible (which may well involve multi-works manufacture) and still enable a reliable flow of finished goods to the customer, not forgetting that in the centre of the operation, distribution factors play a key part in determining the level of stocks of both finished goods and raw materials needed by a business. In other words, for a fine-tuned business, distribution is likely to be a principal determinant of necessary cash flow.

For many, probably still the majority, of transport bosses, such considerations remain the stuff of which doctoral theses are made. This is always likely to be the case in an industry which by its very nature continues to have plenty of room for the small-scale operator.

But for the bigger companies and the more ambitious transport professional the nettle is there to be grasped. The response is manifest in all ways and at all levels: from the Unilever owned SPD company and the State-owned National Carriers creating a more secure relationship with customers in the pottery industry by setting up a specialised service using a new method of packaging to the decision by Dunlop to replan its backloading arrangements, with consequent savings of £300,000 a year.

The search for a solution to a distribution problem which may be showing up in straightforward customer complaints about poor delivery or in more subtle constraints on, say, the marketing department, can be complex, time-consuming and costly. It involves difficult research often followed by even more difficult decisions, which may involve the need to close down inefficient depots or invest in new materials handling machinery.

Most such researches are small and ad hoc, although some companies, such as Courtaulds, have engaged in mammoth first principles re-assessments. Often, for the smaller company especially, the problem is that the transport manager is too busy running and maintaining his fleet and keeping his carriers on their toes to spare the time for constructive contemplation.

It is in this situation that the distribution consultant comes into his own and an examination of a consultant's case-load is an instructive lesson in the relationship between objective, quantitative analysis of problems and the day-to-day pressure of keeping a business moving.

There are not many such consultants in this country, although the indications are that their popularity is growing. The Freight Transport Association, the major freight transport users' organisation in Britain, has recently launched a comprehensive consultancy service for its 14,500 members—in conjunction with three professional consultants. One of these is Research Planning Consultants, with offices in London, Guildford and Bristol, which in personnel terms is fairly directly descended from the longer-established Davies and Robson.

The company's work has varied from recommendations on fertiliser distribution to the Government of Indonesia, to the more mundane business of oiling the distribution systems of hundreds of British manufacturing and retailing organisations. It has even, to a more limited extent, supplied a service to road hauliers, in such crucial matters as pricing a long-term contract, on which the entire solvency of a medium-size haulier can depend.

Complex

The basic gospel at Research Planning is, naturally enough, physical distribution management, defined in a brochure as "the complex of activities and resources which take the product from the manufacturing stage to the consumer." But the approach is pretty down to earth and, in interesting contrast to the stop-watch and graph wielding observer image, the company asks its clients that it be involved in the implementation of the plans it is paid to frame.

A typical case involves a two-day visit to the company for the preparation of an initial prospectus, analysing the company, its distribution system, problems and tentative remedies. A fixed price and time-scale for the job is specified and the client is then able to decide whether the consultant's services look useful.

The actual investigation can take anything up to a year and the cost of a six-month contract might be in the region of £18,000. As might be expected, the company is not short of examples of companies who were able to make savings of ten times the consultancy fee as a result of implementing a report's recommendations.

At the end of an investigation, the consultant will have gathered a comprehensive picture of the company's long-term sales forecasts and an understanding of its production methods, stock-holding, marketing, product design, customer geography, export traffic, inter-factory trunking, budget data, performance, security, charging system, control ratios, manpower and vehicle utilisation and a host of less easily classifiable facts. In addition, the consultant will have formed a detailed view of the management organisation and any monitoring system.

Frequently, customers lack basic data about their distribution task and even, it seems, about their marketing expectations. And quite often the consultant finds himself at the centre of an in-company battle over investment levels or prodding at a distribution arrangement which is already undermined by a dangerous neglect of cash flow.

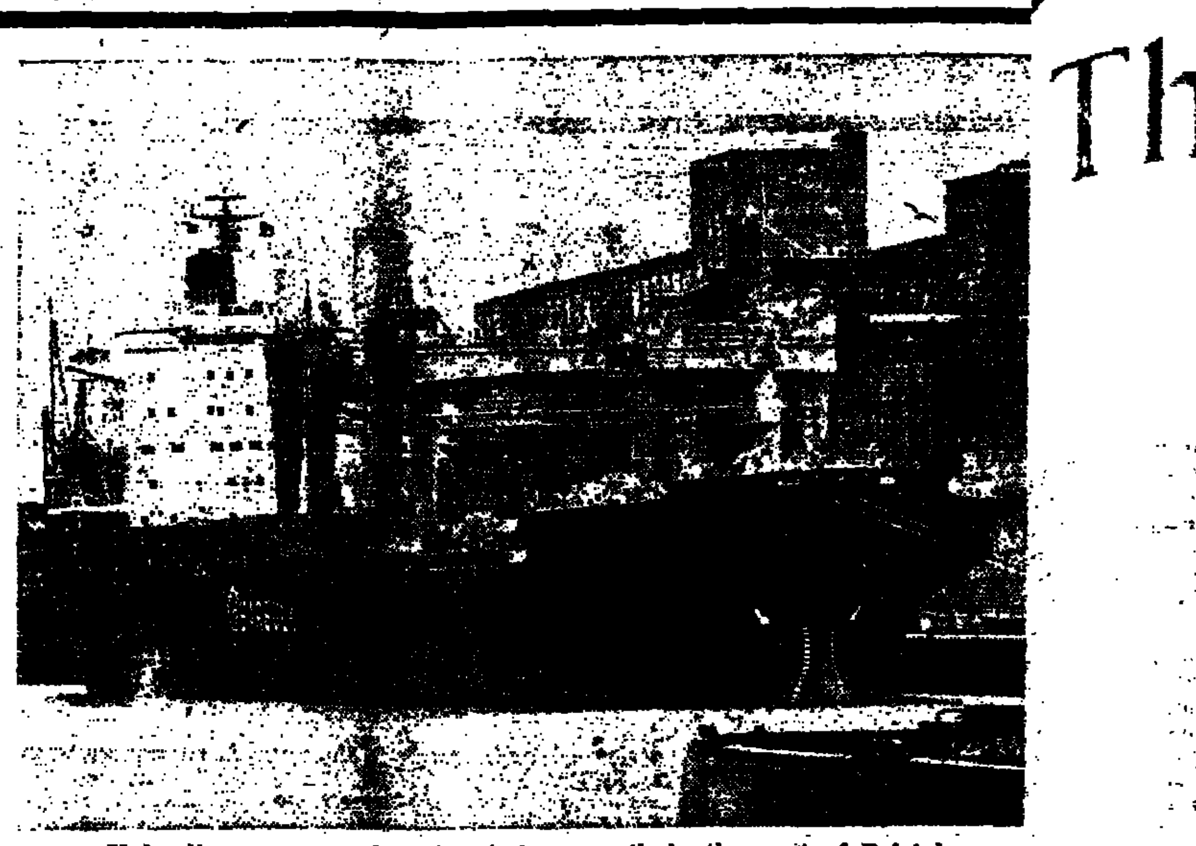
Research Planning will also tackle more straightforward questions of, for example, which is the most suitable and cheapest carrier available and indeed has a subsidiary which provides a continuous audit of systems and costs for 130 clients.

Finally—and here there is agreement between the old and the new schools of thought about transport—the consultant will arrange for the recruitment of a distribution manager to keep the system in check.

It is the personal qualities of the man in charge who, as time passes, will have to see to it that his distribution system will not waste resources during recession and seasonal troughs, but will be elastic enough to take the strain when the business is expanding.

The indications are that in British industry, the distribution man is still given generally low status in the management pecking order and is thus lacking in influence in designing his company's working methods.

Ian Hargreaves



Unloading a cargo of grain at Avonmouth in the port of Bristol.

Patterns of demand

ON THE WORLD scene freight transport has been one of the fastest growing industries certainly since the end of the Second World War and probably since the beginning of the industrial revolution two centuries ago. Reliable figures are hard to come by but the U.K. Transport and Road Research Laboratory recently made a brave attempt to assess what data was available. It came to the conclusion that world demand for freight transport, as indicated by the somewhat unsatisfactory yardstick of total ton-miles of work done, had probably increased at the rate of almost 8 per cent. a year between 1950 and 1970. This was faster than the increase in either world population or income during the same period and, for that matter, faster than the growth in world demand for vehicular passenger transport as recorded in terms of total passenger-miles.

This record of rapid growth is not all that surprising. The period between the end of the Second World War and the quadrupling of world oil prices in late 1973 saw the longest sustained growth in economic activity the world has probably ever experienced, and the most notable element was the upsurge in international trade. The ton-mile yardstick which is conventionally used to measure the output of the freight transport industry gives most weight to transport activities which involve the movement of heavy goods over long distances, irrespective of the value placed on that movement, and on this basis some 70 per cent. of the total movement of freight in the world in 1970 was by sea.

Technical

Nevertheless, unsatisfactory though they may be as a precise measure of freight activity, ton-miles do give us some idea of relative rates of growth. According to the TRRL, the output of the world shipping industry as measured in terms of ton-miles grew by about 8 per cent. a year in the 1950s and by about 12 per cent. in the 1960s. The growth of air freight, which benefited from technical developments in civil aviation as well as from the upsurge in international trade during this period accelerated from about 13 per cent. a year in the 1950s to about 17 per cent. in the 1960s. Both rates of increase were considerably faster than the overall growth in the total inland movement of freight, which increased by about 5½ per cent. a year during the 1950s and by about 5¼ per cent in the 1960s.

Whereas the movement of freight by sea and by air tends to reflect the trend of visible trade between countries, road and rail freight movement on the other hand tends to reflect the rate of growth in national economic activity. The correlation between gross domestic product and freight-ton mi is not a precise one. Each 1 cent. increase in GDP in U.S., for example, tends to associated with an increase rather more than 2 per ce in the ton-mileage of frei movement, which is ab double the ratio found in m countries of Western Euro The ratio can also vary o time as changes occur in location of industry or in pattern of wholesale and ret distribution. But the gene proposition that the dema for inland freight transp tends to grow in direct prop tion to the growth of econo activity as a whole rema broadly true and, because liberalisation of world tr since the 1940s and the gr ing appetite of the develop countries for raw materi foodstuffs, and imported ma factures has led to a fas increase in world trade than total world economic outp the world shipping industry enjoyed a faster growth than road and rail transport. The role that railways p in inland freight movem around the world may always be appreciated in t country where rail's share the total freight market been declining for decades has now fallen to less thar fifth. Worldwide, however, freight is far more import than road freight moveme According to the TRRL, pr ably almost 70 per cent. of inland ton-miles of frei

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The glamour goes out of technology

NO BUS OPERATOR is likely to leap for his cheque book on reading the final report of a Government experiment with small electric buses. On the basis of present-day technology, they compare poorly with the diesel bus.

The conclusion is one the transport technologists have been forced to time and again in the past few years, once they examined more carefully the bold schemes of the 1960s, when such words as "hovertrains," "rapid transit," and "travellators" aroused so much excitement — and so much emotion when their economics were questioned. Most of the glamour projects have succumbed to a combination of adverse factors, of which five stand out prominently: high capital cost; poor overall economics; technological uncertainties; the fact that speed is energy-intensive; and, most important of all, "people problems."

Let us take the electric bus trials as an example. The Department of Industry funded an experiment in which two 19-seat electric buses, specially built for the job, were run on regular routes by bus operators in 14 towns over a period of two and a half years. The technology was well-established—lead-acid battery storage, DC series-wound drive, thyristor control. The buses weighed 8 tonnes unladen—3.5 tonnes of battery—and had a range of 39 km. Their colour was yellow to make them conspicuous (although the cash customers themselves proved disappointingly apathetic about offering any views on the new bus). Availability at 83 per cent. was lower than operators expect but fairly good none the less for prototype vehicles.

Analysis of the basic costs indicates that this kind of bus is likely to show higher overall operating costs than a broadly equivalent diesel." But the final report last summer added a more encouraging note in claiming that, given an advanced battery of the sodium-sulphur type, of 200 watt-hours per kilogram capacity, "energy consumption of a diesel-equivalent of a small electric bus could be lower than for the diesel." The experiment included attempts at battery exchange *en route*, in an effort to extend the range. But this was "unlikely to offer an operationally or economically attractive solution to the range problems of the small electric bus."

Before we leave the electric bus, it is worth putting its vital statistics into perspective. Eight tonnes of bus would carry 1.65 tonnes of passengers. The red London double-decker (diesel) weighing 7.4 tonnes carries 4.4 tonnes of passengers.

Capital

A glance through the latest report of the work of the Transport and Road Research Laboratory at Crowthorne, Britain's biggest transport research centre, confirms that much of the euphoria has disappeared from the discussion of technological progress. Mr. Alex Silverleaf, director of TRRL's research programme, now approaching £10m. a year, writes of "strong indications of less support for transport schemes requiring large capital investment, such as Minitram and other advanced technology systems, and more for making the best use of what we have." Minitram, which was being studied for a demonstration in Sheffield, has been dropped, and the relevant development is being confined to the application of automatic train control concepts to existing underground railways when this looks practical and economic.

Another project which has aroused great interest is the Speedway high-speed pedestrian conveyor developed by Dunlop. But an application study carried out for TRRL came to the "rather disappointing, though not unexpected" conclusion that because the 6.4 mph conveyor must run in nearly straight lines, and is comparatively expensive, British cities would offer few applications unless by installing one a city could make some financially attractive new use of its land.

The indignation aroused less than four years ago by a decision to axe the hovertrain project, because no commercial user or manufacturer was showing any willingness to help finance it, looks sadly misplaced to-day. Even then, the air-cushion suspension was already being displaced by magnetic suspension, on the grounds that the latter was silent and more amenable to control. But further experimental work on magnetic suspension by British Rail's laboratories at Derby, under contract to the Department of the Environment, although "technically interesting and valuable," shows no sign of leading anywhere useful for transportation in the foreseeable future.

But one major programme that has not been derailed by deeper experience of the problems is BR's advanced passenger train (APT), a project deliberately conceived as a way of "making the best use of what we have." BR has a track and signalling system, representing immense capital investment. Starting in 1962, it brought in aerospace engineers to design a new kind of train to run much faster within these important constraints. They applied themselves to such questions as the physics of steel-wheel-on-steel-rail interaction, analysis of the many degrees of freedom of the suspension, and control of tilting as the train negotiates curves and sharp bends. They resisted any temptation to conclude that all would be solved by tearing up the track. They came up with a system that BR hopes to put into service at the end of next year, in the form of three demonstration APTs running between London and Glasgow. The first trial runs should take place late this year.

Initially, the APT—like the recently introduced high-speed trains of Western Region—will run at speeds up to 125 mph. But whereas the high-speed train, because of the sinuous track on this route, would cut only ten minutes off the London-Glasgow run, the APT will cut over an hour. BR reckons that about 50 per cent. of its track, overall, is made up of curves—and 50 per cent of them are sharp bends.

The present APT programme is expected to cost £25m. (in addition to the £10m. spent in the exploratory phase, leading to the experimental APT). For this price BR expects to have three passenger-carrying prototypes and their assembly and support facilities with which to explore the problems of introducing the APT generally, and eventually at much higher speeds.

Interest

For freight, the new technology attracting most interest is the possibility of "pipelining" raw materials, for example. The idea is not new—after all, the Post Office introduced it for moving mail across London in "capsules" in 1861. The attractions become more apparent when it is considered that the estimated annual cost of transporting aggregates—sand, gravel, road fill, etc.—for the construction industry in Britain was more than £200m. in 1973, even before the big surge in energy costs. One proposal for such a freight pipe in Britain is to move pulverised fuel ash from the big coal-fired power stations of the East Midlands, at the rate of 20m. tonnes a year, for land reclamation on the Humber Estuary.

The British Hydraulics Research Association has built a new large-scale hydraulic transport test facility at Cranfield, about to be commissioned, in which slurries with particle sizes up to 100mm. will be pumped through loops up to 250mm. (10 inches) diameter. TRRL is supporting work on another pipeline facility used to investigate the transport of materials pneumatically in the form of capsules. A test loop 0.6 km. long and 600 mm. (24 inches) in diameter has been laid at Milton Keynes.

Mr. Silverleaf, director of TRRL, tells a story which illustrates why much of the glamour has gone out of transport technology. A senior U.S. Department of Transport official was admitting that the enthusiasts had learned a sobering lesson. They firmly believed that the "mission approach" that had landed men on the moon could also be used to solve the problems of cities. It could not—because the problems of cities are "peoples problems" and therefore much more difficult.

Not just Britain but all highly developed nations have become disillusioned about the prospects for advanced transport technology. Only in the U.S. to-day is there some residual funding for glamour projects. A new, more philosophical approach has appeared, in which the challenge is recognised as much more intellectual. This is epitomised by the battle for safer roads, where it has become steadily more difficult to make advances that will contain the problem. Certainly all the straightforward answers seem to provoke immediate objections from some quarter or other.

The technologists have been able to demonstrate the technical feasibility of a host of ideas—seat belts, head-up displays of speed, radar anti-collision devices, computer control of traffic, for example. But either the cost seems to outweigh the benefits or, as in the case of compulsory seat belts, the very idea arouses a profound emotional reaction—in other words, a "people problem."

David Fishlock
Science Editor

Demand

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traffic in the world goes by rail. This figure may be boosted by the very large quantities of freight that are moved by rail in Russia, which to-day accounts for about half of all world rail freight movement, and in North America, which accounts for a further quarter. But in every other continent, apart from Western Europe and South America, rail still carries more freight than road transport.

Even so, the rate of growth in rail freight movement is lower than that for road transport with the result that rail's share of the total inland freight market is steadily declining in every continent. In the 1950's the annual rate of increase in freight ton-miles by rail around the world was about 5 per cent. as against 7 per cent. for road freight movement while in the 1960's the divergence increased to about 4 per cent. and 8 per cent. respectively.

The trend away from rail transport has gone further in Western Europe, the continent where the railway age began a century and a half ago. In the 10 years up to the OPEC oil price increase in late 1973, the total movement of freight transport within the nine EEC members increased by an average of 4 per cent. a year. But rail freight movement hardly increased at all (a drop in rail carryings in the Netherlands and the U.K. more or less offset modest increases in the other seven member states). Road freight movement, on the other hand, rose by about 5 per cent. a year and by 1973 it not only accounted for half the total EEC freight market but it also accounted for a larger share of the total inland freight market than rail in every EEC country except Luxembourg.

The EEC freight transport industry does not, of course, consist of road and rail transport alone. Inland waterways are major freight carriers in West Germany, the Netherlands, France, Belgium and — since coastal shipping is in a sense the British equivalent of the Rhine—in the U.K. In all, freight movement by water increased by about 2½ per cent. a year in the decade before 1973 when its 13 per cent. share of EEC freight market in that year amounted to about half that of rail and about a quarter of the road transport industry's share. The remaining tenth or so of the market was held by pipelines, a relatively new industry which is an important carrier of crude oil and refined products (and potentially of other items) and which has increased its carryings more than six-fold in the past ten years.

EEC FREIGHT MOVEMENT
ESTIMATED 1000 MILLION TONNE-KILOMETRES

	1963	1972	% growth a year
Road	214	348	5
Rail	186	189	—
Inland waterways and coastal shipping	97	116	2
Pipelines	12	71	26
Total	508	724	5

Source: EEC Commission.

WORLD FREIGHT MOVEMENT
ESTIMATED 1000 MILLION TONNE-KILOMETRES

	1950	1960	1970	% growth a year 1950-60	1960-70
Shipping	2,750	5,650	16,350	8	12
Rail	2,000	3,340	5,030	5	4
Road	470	940	2,020	7	8
Air	1	3	16	13	17
Total	5,220	9,940	23,900	7	9

Source: Transport and Road Research Laboratory.

The changing modal split is the outcome of a variety of different factors—geographical, industrial, economic, social and legislative. Rail's share of the total freight market has declined in countries, like France and West Germany, which have operated a detailed system of entry, capacity and tariff control over road haulage, as well as in those, like the Netherlands and since 1968 the U.K., which have not (even in the first group of countries "own-account" transport by industrial companies owning and operating their own lorry fleets has tended to be free of control).

But perhaps the most important factor has been the changes that have been taking place in the demand for freight transport in the last two decades or so in all advanced industrial countries. The inland movement of coal and steel, the two staple rail freight traffics, have tended to decline as steel making has been concentrated into larger coastal plants using imported raw materials and as a wide range of direct coal usage has given way to an increasing concentration upon the conversion of coal into electricity in large power stations sited in or near to the major coal producing centres. Road freight movement, on the other hand, has been much better placed to respond to the increasingly specialised and demanding needs of the consumer goods industries where fashions are constantly changing, new products are being promoted, stock control and specialised handling techniques are called for, new patterns of distribution have emerged, and where, in consequence, adaptability and speed of response are all-important.

Indeed, road and rail—and, for that matter, all the other modes—have increasingly become complementary rather than competitive. Whereas rail transport has been tending to concentrate upon the movement of materials in bulk and upon the thick, regular, two-way flows of traffic along the major national and international arterial routes, where rail's specialised advantages can still come into their own, road freight transport has tended to specialise in the short-haul movement of building materials, sand, gravel, and aggregate and upon the fast-growing and highly market-orientated movement of branded foodstuffs and consumer manufactures.

Colin Jones

Investment may secure the future

LAST YEAR British Rail got rid of 40,000 freight wagons and did not lose a single ton of business. It is a statistic, one of many, which can be selected to show one of two things, depending on your viewpoint: *that the Rail Board is now commendably cutting out the dead wood or that the Board should be roundly censured for allowing its arteries to become so* choked in the first place.

The statistic certainly cannot be dismissed as a one-off freak. In 1977, the intention is to unload another 25,000 of the same type of vehicle, taking the total fleet to about 166,000—compared with a colossal 415,000 in 1970.

Perhaps the figures give some impression of the dimension of British Rail's freight problem. The picture is further coloured when it is realised that *of the present fleet of about* 184,000 wagons, only 100,000 have brakes and an even smaller proportion, about 15,000, have *air-brakes. This means, in* effect, that the majority of the fleet consists of cheap, inadequate wagons, which can still trundle along on local "feeder" lines and do some coal-carrying work, but which are useless for high-speed, high-quality freight trunking. It is absolutely obvious that only this latter category of transport stands any chance at all in motorway-age Britain of competing with lorries.

British Rail is not ashamed to admit that its wagon-load business has been neglected. Indeed the 1963 Beeching Report more or less wrote off wagon-load services and in recent years, rail freight has successfully concentrated on *developing its bulkhaul train*-load services for a limited number of high-volume industries such as coal, steel, aggregates and chemicals.

The result has been that carryings by wagon-load have slumped from 130m. tonnes a year to 40m. tonnes inside eight years. Almost exactly the reverse swing has been true for train-load business, where traffic has increased from 60m. to 160m. tonnes a year. In the last three years, total rail freight carryings have not exceeded 177m. tonnes in any one year.

So when a few weeks ago, British Rail announced the appointment of Mr. Fred Pullin to the new post of Wagonload Planning Manager, it was a sign *that a new attitude had* hardened. It is right to say hardened rather than appeared because the new thinking on wagonload *services had begun* to emerge, with a high degree of caution in 1972, when the first air-braked wagon service was introduced between Bristol and Glasgow.

Since then, £20m. has been set aside to build up the new service, which currently offers 24 daily services. Almost 80 per cent. of the traffic is simply heavy cargo from rail freight's existing bulk customers, whose needs cannot be *entirely catered* for efficiently in train-load services, with the remaining one-fifth coming in as new business attracted, it must be assumed, from the roads.

Two main advantages flow from the air-brake system: it is speedy (the trains have a *normal operating speed of 60 mph)* and, because it is linked to British Rail's successful real-time computer system TOPS, it is extremely reliable—better than 97 per cent. of transits occurring to customer satisfaction, says Mr. Pullin. British Rail's defence of its failure to *moderate* its wagon services earlier is incidentally, since TOPS came on stream in 1975.

High-speed

The high-speed wagon service is said to be comfortably covering its allocated costs already and it is expected that it will be contributing a useful if not spectacular £1m. a year in revenue surplus by 1979. One *of the reasons for this success* is the close monitoring of performance on each service, where 60 per cent. loading is reckoned to be the minimum for profitable operation. A small number *of services have been quickly* withdrawn having failed to meet this requirement.

This projected expansion, to a total of 4.2m. tonnes in 1979, is of course dependent upon the system receiving a rolling *investment input to allow it to* take 700 new wagons a year up to 1981, involving a total capital outlay of perhaps £80m. at to-day's prices. A budget averaging £8m. a year may seem modest, but set in the context of a total freight investment budget of about £20m. (apparently the maximum deemed possible by the Rail Board out of its frozen investment ceiling of just over £200m.) it is a substantial slice for a small part of the business.

The tightness of this investment outlook is very much to the forefront of the *Rail Board's* mind and it has already consigned to the waste paper basket a number of grand designs for a *total re-shaping of the freight* business, such as the late-lamented Speedlink container service which, some rail enthusiasts believed, was the means by which rail could have finally squared up in a truly competitive battle with the road haulage industry.

Necessity has been the key to more modest ambitions and on past experience the absence of handy crocks of gold may be no bad thing. The air-braked wagon service, providing a limited but saleable siding to siding service for smaller consignments, is an example of how *the more cautious approach can* achieve results.

That said, there is some genuine cause for anxiety about the size of the freight investment purse. If, as British Rail would like, Freightliners is returned to its sole ownership in May's transport White Paper, it will take on board a substantial extra investment drain, especially in the mid-1980s when much of the container terminal *equipment is due for renewal.* On present trends it might well not be able to support this extra burden.

So what is the future for rail freight? Is it, as the Road Haulage Association recently told a Commons Select Committee, doomed to a future of shrinking traffic and heavier demands on the taxpayer?

The Government philosophy is simple: rail freight, like its intermodal brother, the National Freight Corporation, must be self-financing, in the case of rail by next year. *Last year, rail freight is believed to* have cut its losses from £70m. to £40m. on slightly increased volume—a healthy trend during a period of industrial recession, but one which almost certainly indicates the impossibility of it breaking even, according to the Government target. The business is still primarily dependent on coal and steel carrying and both these industries have problems—one of productivity, the other of world demand.

It is likely that the Government, as is customary, will waive this target break-even date, although the deficit grant ceiling will continue to be lowered. What will happen to rail's investment allowance is less certain, although only an outright optimist could see any possibility of the Rail Board getting any part of the 50 per cent. increase it says it desperately needs in the next year.

It is curious, in a sense, that in the middle of this trough, rail freight should be engaging in one of the most thorough pieces of self-examination ever undertaken. Perhaps, though, the general curtailment of public spending, which has hit *road-building much more* seriously than rail, has stabilised the atmosphere and created the right atmosphere for contemplation.

At any rate, the rail freight review is in process, now well beyond its scheduled report date, which has been put back *to the summer. For the present,* the Board is unwilling to say too much about interim findings, but the outlines of the process can be guessed at.

In broad terms, British Rail seems to have two major goals in its freight strategy. One is to increase productivity: the other is to sell the virtues of the freight business to Government on a slightly altered basis.

To take the second point *first. Mr. Peter Parker, the* rail chairman, is trying to put across the message that rail freight is a key part of the present Government's industrial strategy and should be financed as such.

The case is a strong one. *British Rail says it can, given* the right support, increase its freight traffic from under 200m. tonnes to 300m. tonnes in the *next 20 years. This figure is,* it insists, not simply drawn out of the air, but is based on a detailed study of the increases in bulk traffic which will flow from such major components of the industrial strategy as the switch towards big coastal steel-making sites in British Steel Corporation and the mining of new coal seams at Selby and Belvoir. What Mr. Parker wants is for the Government to examine and accept these figures — and authorise investment accordingly.

That productivity should be increased is an area of general agreement. This means not only doing more work with fewer men (the projected demanning task is 40,000 jobs by between 1978-81), but making more efficient use of trains. The target is 100 loaded journeys per wagon each year, presently well under half that rate.

One of the most useful contributions to this objective will certainly be made by TOPS, which has made *possible close* control of wagon movements. There will also be a new emphasis on preventive maintenance and a decrease in the amount of marshalling yard work by virtue of faster journey times and better control of train make-up. On the manpower side, *considerable reductions in track* maintenance and freight marshalling manning is possible, given, as always, the consent and co-operation of the unions.

British Rail believes that another highly significant impetus is being given to the freight business by the agency of the grants towards the cost of private sidings given under Section Eight of the 1974 Railways Act. So far, 21 grants, worth £3.7m., have been made and will be associated with 2.5m. tonnes of rail freight per year. A further 33 grant applications, worth £10m. and 4m. tonnes, are being considered.

British Rail has put a lot of effort into selling this Government-financed package, by pointing out that it can, taking t[...] considerations into accou[...] mean a company paying only *per cent. of the cost of an* installation. More significant there seems to be confidence Br[itish] Rail that the ceiling f[or] *grants of £35m. over five yea[rs]* will be lifted as demand emerg[es] and that the conditions whi[ch] companies must meet to quali[fy] for a Section Eight grant w[ill] be made more flexible. R[ail] officials are somewhat less hop[eful] about the amount of time it taking the Department of Tra[nsport] to process the grant app[li]cations and representations ha[ve] recently been made on th[is] account.

There is, as might expected, a wide variance view as the general degree sympathy for the rail freig[ht] case within the Department Transport and, equally, amo[ng] the formulators of the ind[us]trial strategy.

In the short-term, British R[ail] awaits the judgment of a tra[ns]port White Paper in May. T[he] point being made most clea[rly] to Government by Mr. Pe[ter] *Parker, the railways chairm[an]* in the run-up to publication that the policy statement m[ust] allow the maximum room f[or] manoeuvre for the railwa[ys] which, it is argued, are still the process of reviewing futu[re] options and are, moreov[er] caught in the distorting trou[gh] of a recession.

Variance

On the freight side, the r[ail's] most solid demands to Gove[rn]ment are for the return Freightliners and for a m[ore] secure and generous approa[ch] to investment. Within the p[or]tals of British Rail headqu[ar]ters, the temptation to rely the environmental and saf[ety] *arguments in favour of r[ail]* (important though these m[ay] be) must be resisted. Only the Board can convince t[he] Government that expansion its bulk freight carryings justified as part of the ind[us]trial strategy and of its viabil[ity] in the general merchandise bu[si]ness, with or without Freig[ht]liners, will it get anything li[ke] the deal it believes it deserv[es].

Ian Hargreav[es]

RAIL

May's Transport White Paper should answer some questions about British Rail's freight future, in particular its relationship with Freightliners.

POTENTIAL BULK TRAFFICS FOR RAIL

Commodity	actual (1973—the last good year) million tonnes	Potential (2,000) million tonnes
Coal and coke	100	88
Iron and steel	35	65
Oil and petroleum products	21	27
Construction materials	23	61
Other traffics	18	39
Source: British Rail.	197	280

Parcelling up the problem

PROBABLY THE two most commonly held impressions of Britain's state-owned parcels services are that they are monopolistic and totally unprofitable. The first of these is entirely untrue, the second, happily, not wholly accurate.

In fact, the state-owned parcels carriers: the Post Office, British Rail Express Parcels, Roadline UK and National Carriers have only 20 per cent. of the market, the lion's share of which is securely and increasingly handled by companies' own account road fleets.

This 20 per cent. of the market, which represents about 360m. packages, is dwindling steadily at a rate of two or three *per cent. a year. Faced with* this situation, the four carriers have been, inevitably, forced to hang on to their custom by the only immediately effective means: keeping prices down.

Even under-pricing, though, has not stemmed the drift towards own account. Partly, the *explanation must be the attrac*tion of the convenience of own account planning, but the feeling among the state carriers is that perhaps companies with own account systems are unaware of precisely what their in-house transport systems are costing. But the costs of switch*ing back to public carriers in* terms of running down assets and perhaps even re-planning production schedules, are too great to contemplate.

Solution

The signs are that we are a long way from a *solution to the* parcels problem. Some favour a new, streamlined state conglomerate, others would prefer two such bodies. Consideration of the problem exercises a variety of committees and there is still some support for the notion that parcels should be at the top of the agenda for the new national transport council, if it comes into being as a result of the White Paper *expected in May.*

All of this is somehow familiar and depressing. Another exercise in shuffling the pack of loss-makers to produce a demoralised, doom-striken, British Parcels. But, looking more closely at the different carriers, there are signs of hope. National Carriers, for example, halved its losses last year by a combination of thrift, rationalisation and determined clarification of its goals. It decided that one way to hang on to customers (other than by the ultimately *self-defeating under-pricing* option) was to lure them into a more specialised service, which would be more reliable, faster and tailored to an ind[us]try's needs. Then when t[he] hard times come, the indust[ry] will think twice before sim[ply] looking for a cheaper optio[n].

For British Rail Expr[ess] Parcels, the problems a[re] similar, but the constraints a more rigid infrastructu[re] create bigger difficulties. L[ast] year, Rail Express lost £20[m.] *almost half the total freig[ht]* deficit. But even here, the[re] is a jewel in an otherwise ge[ar]less crown, in the shape of t[he] Red Star Parcels Service. look at its record illustra[tes] the potential without obscuri[ng] the difficulties of the rail p[ar]cels business.

Red Star began life in t[he] late 1960s. It is a premiu[m] parcels service which allows customer to bring his packa[ge] to a main-line station and bo[ok] it on board a given Inter-Ci[ty] train, enabling his customer collect it at a pre-arranged tim[e].

In 1971, Red Star handl[ed] 1.4m. packages; *last year th[e]* number had risen to 4m. a[nd] profits are very healthy indee[d] in fact so healthy that Briti[sh] Rail is reluctant to disclo[se] *them for fear of being accus[ed]* of taxing the premium parce[ls] customer to subsidise the us[er] of the loss-making collect a[nd] deliver and ordinary "to b[e] called for" services.

According to Mr. Mi[ke] Connolly, its chief parce[ls] manager, Red Star prosper[s] whatever the state of th[e] economy: in periods of grow[th] demand outstrips productio[n] and there is a surge of las[t] *minute, urgent deliveries when* as in periods of recession, stoc[k]ists of, for example, motc[r] spare parts run down stocks t[o] reduce cash *commitments* an[d] again force themselves into th[e] Red Star, same-day deliver[y] market.

Add to this a general mov[e] in manufacturing industr[y] towards sophisticated, capit[al] intensive machinery for whic[h] a missing spare part can mea[n] *the loss of thousands of pound[s]* worth of production and th[e] value of Red Star can b[e] appreciated.

Having identified this market British Rail has ensured tha[t] Red Star has been in the firs[t] place adequately promoted an[d] reliable in operation. The ser[vice] claims a reliability recor[d] of 98.5 per cent. and when t[he] decision was taken to extend th[e] Red Star network by allowin[g]

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Change likely at Freightliner

FOR THE second time in its 12-year life, the future ownership of Freightliners, the road and rail container carrier, is in doubt. Born in 1965 in a burst of British Rail pioneering, control was transferred to the newly-formed National Freight Corporation under the 1968 Transport Act. Now, following strong representations for a reversal of the 1968 move from British Rail and the rail unions, the Government is again reconsidering the matter.

This will be one of the questions answered in the May White Paper on transport along with the parallel, though less hotly contentious, issue of who should own National Carriers, NFC's major general parcels company, which the unions again want to seek back in the arms of the Railways Board.

The signs are that no one other than the National Union of Railwaymen and the Transport and Salaried Staffs Association is spoiling for a fight over National Carriers. The Freight Corporation thinks it is well on its way to solving the company's chronic problems of overcapacity and the Railways Board is maintaining the lowest of profiles on the issue.

This is not the case with Freightliners, where a vigorous lobbying battle both inside and outside the Department of Transport is in train, if such a partial choice of phrase may be permitted. This is notwithstanding the fact that there is a body of opinion within the Department which thinks the whole debate pretty irrelevant to the principal issue of the company's performance anyway.

The debate is, in fact, far from irrelevant. For National Freight Corporation, its basic statutory responsibility to act as an intermodal distributor is in question. For British Rail, the issue is whether it will be allowed to gather an outstanding partner into its increasingly confident push for expansion in the freight business. The present ownership is 51:49 in favour of NFC and ideally, British Rail would like to take the company back lock, stock and barrel, with 100 per cent. control, although it would settle for a 51 per cent. stake.

A short time ago, the Commons Select Committee which is looking into the future of railways was treated to the most spirited public presentation of the Railways Board case so far on the Freightliner question. The argument went like this: NFC has not allowed Freightliners to achieve its full potential because, by its nature, the Corporation is predominantly interested in backing the road haulage lobby. Typical of this lack of commitment is the fact that NFC's other companies have progressively used rail less and less for trunk haulage. NFC is even, it is suggested, keen to hang on to Freightliners to prevent it encroaching on the territory of its other road-based companies.

The positive advantages of rail-controlled Freightliners would be to make British Rail's freight package more comprehensive and thus more marketable and to ensure that Freightliners' rail needs are fully understood and provided for. British Rail can also add that its investment in Freightliners has been double that of NFC and the not unimportant fact that most Freightliners staff are members of rail unions.

Issues

On the Freight Corporation side, two powerful points are made. First that it would be folly to mess about with a company which is in the strongest trend of improved performance in its history and secondly that the marketing side of the business is more closely dependent on the road haulage (Freightliner depot to customer) part of the operation. The rail haul, it is said, is essentially a wholesale contract, which needs to be efficient but not in itself in need of sophisticated marketing.

Some of the arguments on both sides overlook the fact that with maximum co-operation many of the differences of view evaporate anyway and that a vigorous, profitable undertaking will make the books of both Corporations healthier.

The arguments also neglect in a way what is the most crucial consideration for the Government: which owner will win most traffic and make most money from the business. And here we enter the intangible question of which body would provide the best management. National Freight would say that its autonomous, satellite structure, with strong in-company direction is ideal and is what has pulled Freightliners up by its boot-straps. British Rail can add coyly that the man who is in charge of the business, managing director Cyril Bleasdale, is a life-time rail employee.

There is a danger of bloody-mindedness on both sides and, although relationships between Freightliners management and British Rail appear to be very good at the moment, accusations about damaging lack of co-operation occasionally re-surface. From the taxpayer's point of view the most serious point here is duplicate investment (is it true, for example, that the railways' costly air-brake wagon service plans and international ferry train businesses could have been done more cheaply by Freightliner?) Equally, is it the case that Freightliners' plans to buy a real-time computer system is senseless when British Rail already has one? There are other difficulties too, though, such as the Railways Board's willingness or lack of it to increase track clearance on crucial lines such as London-Dover, which has inhibited Freightliners expansion. Apparently, one Freightliners route is subject to costly diversion because of just one low-clearance bridge.

It will not be an easy decision for the cost-effectiveness conscious Mr. William Rodgers, the Transport Secretary, to make in May. He is not a Minister to order change where the status quo looks satisfactory, but there is no question that even this year's £1.43m. trading profit is a long way short of the level needed to finance investment in expensive capital equipment, much of which will be worn out by the mid-1980s.

There is not a shadow of doubt, though, that Freightliners should and can make money. Half its business is now tied into maritime services (that figure includes Irish Sea traffic) and as the drift from general cargo handling to containerisation gathers strength, especially on short-sea routes the company is uniquely placed to ply between the ports and major inland cities.

There are still problems here. The line-clearance difficulties on the Dover route have already been mentioned and there are still a number of poorly sited terminals. Even one port terminal, that at Hull, is to close soon because of heavy losses as a result of the port's failure to develop its container handling operations to a sufficiently great extent, although the wisdom of the closure decision has been questioned in many quarters.

One of the most profitable Freightliner operations, and to a certain extent a model for the future, is the twin Southampton terminal. Southampton Maritime was opened in 1972 on a port-side site adjacent to the massive container berths of Solent Container Services, a subsidiary of five shipping consortia. Over 65 per cent. of the containers entering the 52 acre berth make the next stage of their journey by Freightliner and it is expected that Solent Containers will be handling 250,000 containers a year (more than a third of this year's Freightliner total) by 1978, after the switch of South African traffic to containers later this year.

It had been intended that Freightliners would actually take more like 80 per cent. of the Solent boxes, but the two Japanese members of the consortium have so far shown themselves unwilling to commit their business to rail.

A hard commitment is necessary, because Southampton Maritime operates exclusively on a contract basis for the shippers using Solent Containers. Seven trains a day are run solely for the use of these companies. In this way, documentation and traffic co-ordination between customer and transporter is controlled to a fine degree and Freightliners does not run any risks, even seasonal, of running part empty trains as it does have to meet the cost if this happens. The Southampton Maritime contract is worth about £5m. a year and is reviewed annually on a formula linked to the retail price index.

Southampton also has a conventional terminal, Southampton Millbrook, which occasionally takes overspill from Maritime and which, like other terminals, has its own fleet of tractors and trailers for the final point of delivery haulage. Nationally, about half of Freightliner customers give the company the road haulage part of the journey and half use their own vehicles or those of a regular haulier.

The general picture for Freightliners looks good. Volume increased 13 per cent. last year and has continued to look healthy in the first two months of this year. Equally important, train capacity sold last year was up from 73 per cent. to 79 per cent. A number of factors have contributed to this trend, but a significant one must be the company's new marketing organisation, with new regional controllers of marketing and a marketing man now in the top, head office team. Control and planning will also undoubtedly benefit from the services of the planned real-time computer.

Volume success, though, can bring its problems, as another NFC company, Roadline, has discovered to its cost in the past few years and Freightliners' biggest challenge this year will be to maintain quality of service through what look like being even higher seasonal peaks than in 1976. At some terminals there are simple storage problems, at others there are potentially grave equipment hazards. One of the greatest anxieties here is at the important Stratford, London, terminal, where a badly designed concrete base for the crane-bearing rails has crumbled and will take valuable months and £330,000 to rectify.

Attention

Attention will continue to be paid to the siting of terminals and further closures are a distinct possibility. At the same time, two mini-terminals at minor ports, Poole and Ipswich, have been opened and the possibility of re-opening the Plymouth terminal is being considered. In all, Freightliner now has 23 terminals, plus service to six port terminals and three privately-owned terminals.

Whichever of the state corporations is in control of Freightliners by the end of this year, it will have to accept a continuing investment drain not covered by revenue into the service. at least, one would guess, until the end of the decade. But if faith is placed in its future, Freightliners could still fulfil some of the great hopes invested in it when it was pioneered in the mid-1960s and, unlike British Rail's heavy industry dependent bulk train-load business, be a stable profit-earner even in times of recession.

I.H.

FREIGHTLINER PERFORMANCE

British Rail ownership—

	Containers carried	Gross receipts	Trading Profit
1966	27,300	unavailable	unavailable
1967	108,500	£2.5m.	unavailable
1968	282,900	£6.4m.	unavailable

National Freight ownership—

	Containers carried	Gross receipts	Trading Profit
1969	397,400	£10.7m.	£2m. loss
1970	480,100	£14.6m.	£0.6m. loss
1971	505,000	£16.2m.	£0.2m.
1972	553,500	£20.7m.	£0.4m. loss
1973	634,300	£25.1m.	£1.1m.
1974	631,800	£27.6m.	£0.2m.
1975	622,000	£31.2m.	£1m. loss
1976	717,000	£39m. (unaudited)	£1.3m. (unaudited)

Parcelling

CONTINUED FROM PREVIOUS PAGE

some parcels to be transferred between trains at junctions, great care was exercised to ensure that this regularity was not impaired.

The price the customer pays for Red Star is a premium of between £1 and £8, according to weight, on top of the normal parcels rate, which is based on distance, size and weight. The figures prove that for Red Star customers, the price is right and British Rail is surely right in seeking to tune its prices accordingly to the strength of the market, even down to differentiating between rates for different routes. This, after all, is precisely what the road haulier does in selecting whether a route is viable in the first place.

An interesting development of Red Star and indeed of the whole rail freight business is seen in the relationship between the parcels service and City Link, a haulage company which decided to link in with Red Star to provide a specialised, express door to door service using rail for the trunk haul and lorry for rapid delivery from station to final destination. City Link now has 20 main agents offices and 150 sub-agents and enables Red Star to link itself with air freight services. City Link is, incidentally, Red Star's largest customer.

In spite of its successes, Red Star has its share of rail freight's structural difficulties. For a start there is a problem of train capacity (Red Star goods come third in priority behind Post Office mail and passengers' luggage and a number of the more popular trains are often unable to take the quantity of parcels available). Added to this is the fact that as passenger train speeds go higher, as on the Western Region's 125 mph services, station stops become fewer and briefer, making unloading difficult other than at final destination.

Red Star also has a certain embarrassment over manning in that, especially where transfers are involved, it needs small gangs of men available for short periods: the very kind of uneconomic deployment of labour which British Rail is seeking to cut out. This problem would be less important if there were any comprehensive way of allocating costs to a service like Red Star, so that a completely self-contained accounting system would be possible. This need to identify the profitable in great detail is central to British Rail strategy for both the freight and passenger businesses. In this particular context, it should be remembered that the parcels business as a whole has only been treated as a separate profit centre since the formation of British Rail Express Parcels in 1968.

The question is, though, can the successes of Red Star, with its emphasis on marketing and maintenance of clearly presented standards, point the way forward for the revitalisation of the parcels business as a whole? The rail Board's five-year target, excluding major reorganisation of the State parcels sector, is to cut the £20m. loss to £5m., by a process of gradual rationalisation and selected, small-scale investment in terminal facilities.

Link-up

In the long-run, though, reorganisation is inevitable and the logical link-up would probably be between Rail Express and the Post Office, with rail continuing to provide a high proportion of the long-distance trunking for the bigger packages handled by National Carriers. One useful step forward will be taken if the Post Office breaks with tradition and introduces tiered pricing for its parcels service based on distance, thus bringing it in line with Rail Express. Perhaps too the general public (the one parcels sending group with no own account option) will have to accept a reduction in the number of despatch points for parcels. There will certainly have to be acceptance of considerably higher prices.

There are other hopeful developments; such as the use of high-speed Freightliner wagons to bulk together parcels for faster journeys and improvements in automatic sorting equipment. But these changes cannot alter the central point that if rail freight is to be subsidy-free, it must be allowed to cultivate the market which desires and is prepared to pay for its services.

I.H.

Airlines able to play a greater part

THROUGHOUT LAST year, there were some welcome signs that the world air cargo industry was moving out of the doldrums that affected it in 1975. Figures issued by the International Civil Aviation Organisation show that so far as the world's scheduled airlines were concerned, the volume of tonne-km. of cargo carried rose by no less than 13 per cent., to 21.8bn. tonne-km., a strong recovery compared with the 2 per cent. growth recorded in the previous year.

While much of this improvement was due to the improvement in the overall economic climate in the Western industrial world, it was also probably due to a greater and belated awareness on the part of scheduled airline managements in a period of economic difficulty that they have hitherto largely either ignored cargo or relegated it to the backwoods of their thinking, with the result that it has not been making the overall impact on their revenues that it either could or should be making.

Be that as it may—and there is strong evidence for that belief — the improvement recorded by the ICAO covers only the scheduled operations of its member-States' airlines. Not included in the figures are the carryings by the independent, or charter, freight operators, who have expanded world-wide their activities considerably in recent years, and now account for a substantial proportion of all the world's air cargo carryings. This growth of the independent cargo operator has been one of the most significant phenomena of the development of air transport in the past decade. Statistics are difficult to come by, but so far as the U.K. itself is concerned figures published by the Civil Aviation Authority show that in the six months to end-September, 1976, cargo carried on the scheduled services of U.K. airlines amounted to 386m. tonne-km. (up 0.9 per cent. on the same period of 1975), while cargo carried by non-scheduled operators amounted to 303m. tonne-km., a gain of 3.2 per cent. over the previous year. Thus, the independent sector is not only now closely pushing the scheduled airline sector in the overall volume of cargo carried, but is also gaining at a much faster rate.

There are several reasons for this. The first is the much greater degree of freedom enjoyed by the independents in such matters as pricing policy. Whereas the scheduled airlines are obliged by their membership of the International Air Transport Association to abide by the rules of that body, the independents are capable of charging what the market will bear, and getting it, because of their much greater flexibility of operation which can often result in a better service than that provided by their scheduled counterparts.

Reality

The second reason for the faster growth of the independents is that the scheduled airlines themselves have overall tended to ignore the potentialities of cargo. Years ago, there was a phrase coined by the scheduled airlines suggesting that cargo was "the sleeping giant" of world air transport, and that, properly awakened and stimulated, it could provide a much greater proportion of the revenues of any airline, perhaps eventually even surpassing passenger revenues in ultimate importance on the balance sheet. What happened to the slogan, and the brave efforts to make it a reality?

The answer is that it was lost in the multitudinous problems that overtook the passenger side of the business in the early 1970s—the need to buy new aircraft to keep up with the competition; the subsequent problems of overcapacity (too many seats chasing too few passengers); the soaring cost of fuel; the increasingly voluble environmental protests requiring substantial sums to produce quieter as well as more fuel-efficient aircraft; the increasing pressure for greater security; and pressures for cheaper fares at a time of steadily rising costs. It is not surprising that many scheduled airlines appeared to be too busy to take a long, hard look at cargo, and it is significant that only now are many of them recognising that the Sleeping Giant is still there, waiting only for the right stimulus to awaken and make its proper contribution to revenues.

AIR

There are some signs of a recovery in air freight although its potential is still far from being reached.

It is against the background of this situation that the independent airlines have moved in, and in recent years have achieved some significant successes where the scheduled operators have failed. In the U.K., the bulk of the non-scheduled air cargo traffic is carried by three all-cargo operators—IAS Cargo Airlines, Transmeridian and Tradewinds—and although the independents also have their regulatory problems with the Civil Aviation Authority (often devised to try to protect the scheduled carrier against non-scheduled competition), they have nevertheless shown a much greater spirit of adventure in attracting freight than their scheduled counterparts.

To some extent also, however, the problems of the scheduled airlines have stemmed from the international regulatory nature of the industry. Many of the problems of the scheduled industry, on the passenger as well as the cargo side, have stemmed from the admitted malfunctioning of the current system of international regulation. In many cases, relating to both passenger fares and cargo rates, this system has worked to the detriment of the scheduled airline industry. On the passenger side, an example is the frequent refusal of the U.S. Civil Aeronautics Board to approve (often at the last moment) new rate structures agreed previously by all the airlines through the normal rate-making machinery of the IATA. On the cargo side, a classic example currently prevails with the efforts of British Airways to introduce a new system of cheap contract rates on the North Atlantic for bulk cargoes, against persistent rejections by the Civil Aeronautics Board.

Discussion

These failures of the regulatory machine as it applies to the scheduled airlines will be the subject of some discussion at a forthcoming meeting of the International Civil Aviation Organisation in Montreal from April 13 to 26. This Special Air Transport Conference—the first by ICAO for over 30 years—has been called to discuss many of the problems currently plaguing the whole of world air transport, and it is hoped that as a result some new international government mechanisms for the control of civil aviation may emerge.

In the meantime, the U.K. in its own right as a major user of air transport, is holding discussions with the U.S. on a new "bilateral air agreement," in which cargo is likely to figure strongly.

It is hoped that by the time the current Anglo-U.S. agreement runs out on June 22, this year, a new agreement will have been reached that will make both passenger and cargo services between the two countries much freer than at present.

In the meantime, the air cargo industry continues to develop slowly. One of the major problems standing in the way of this expansion is lack of awareness on the part of many responsible people in industry and commerce of the financial benefits accruing from a judicious use of the aeroplane as a means of distributing goods. The emphasis is on judicious, for manifestly the aeroplane—at least as yet, and except in the case of certain no-expense-spared emergency situations—is not an ideal vehicle for the transport of large quantities of commodities such as wheat, rice, or oil.

But there are many other areas of industry in which the aeroplane, properly employed, can be used substantially to reduce manufacturers' costs or easing cash-flow problems by shortening the pipeline between the input of raw materials and the sale of finished consumer goods, resulting in quicker turnover of capital. For many in the U.K., the aeroplane, and air cargo, is something to be viewed with suspicion, and it is the task of the air transport industry, scheduled and non-scheduled alike, to try to break down this attitude. The expansion of cargo, in fact, is not just a question of providing the right aeroplane at the right time and place and at the right price. It is a matter of re-educating shippers, industrialists and others currently imbued with the comfortable conservatism of traditional methods of distribution.

It is an exceptionally difficult task. No-one seems to want to do it outside the industry, and so it is incumbent upon the industry itself, scheduled and non-scheduled sectors alike, to undertake it for themselves. The independents, so far as the U.K. is concerned, seem to be more successful at it than the scheduled airlines, although there are signs that some scheduled airlines are now devoting far more attention to the problem than they did hitherto.

Advice

But the fact remains that despite the wide range of services available to the would-be shipper, and the large volume of advice waiting to be tapped, there is still a long way to go. Many governments, and their various departments, still need educating in the merits of air cargo. The passenger has so far won the day because he is articulate, vocal and not afraid to express himself if he feels he is hard done by in the quality and quantity of services he is offered. Air cargo (apart from the shippers themselves) is inarticulate and unable to bring to bear the same volume of protest against the inequitable treatment meted out to it, in the form of inadequate facilities and comparative disdain. And yet, everyone in the aviation business accepts that as yet only the surface of air freight potential has been scratched. The sleeping giant has yet to be fully wakened, and exploiting his untapped potential is one of the greatest challenges facing the world air transport industry to-day.

Michael Donne
Aerospace Correspondent

Improving handling facilities

ALTHOUGH THE air cargo industry can be regarded as a prime candidate for the exploitation of the low status accorded handling goods, it cannot be said so far to have made significant progress worldwide in this field. While there are some notable exceptions—and the U.K. in general and British Airways in particular are working hard to improve the cargo handling facilities at Heathrow—in general terms worldwide the industry can hardly be said to be in the vanguard of new thinking. This is another reflection of the low status accorded to air cargo, compared with that accorded to passenger traffic, in the thinking of many airlines at Boardroom level.

Far too frequently round the world it is still possible to find cargo relegated to old, inadequate buildings in some remote corner of the airport, with insufficient and in some cases antiquated handling equipment, inadequate customs facilities, and none of the advanced techniques that are increasingly being applied to passenger handling. It is reasonable to ask why, if a passenger can arrive at an airport, be processed through ticketing check-in, passport, customs and security controls, and be aboard the aircraft and away in, say, an hour or so, cannot the same treatment be accorded to all goods, regardless of size, shape or value? Certainly, many of the major airlines can and do provide reasonably swift handling of consignments for transport on scheduled flights, where those consignments can move conveniently in the holds of aircraft primarily engaged in regular passenger transport. But, by and large, it is only in a comparatively small number of the more industrially-developed, and therefore air transport-orientated, countries that hitherto any serious effort to promote the long-term development of air cargo are being made, and even in some of those countries it is not difficult to find areas of major dissatisfaction on the part of would-be shippers. What does seem clear is that the entire world air cargo industry now requires substantial injections of cash to enable it to equip with new all-cargo terminals, and with modern data-processing and computerised control of goods handling.

Some airlines are already taking positive steps to improve their cargo operations. In British Airways, as part of the recent radical reorganisation of top management, and the abolition of the former European, Overseas and Regional Divisions, Mr. Peter Pinfield has been appointed the airline's first-ever Controller Cargo, reporting to the new BA world-wide Marketing Director, Mr. Gerry Draper. BA recognises that there have been difficulties in the past in integrating the former BOAC and BEA cargo operations, but it is the intention from now on to improve the entire cargo effort on a global basis. One of Mr. Draper's prime objectives is to build up an intelligence system throughout the world to find out what is happening to cargo marketing, as a first step towards BA's overall objective of securing a proper economic return from the carriage of freight, and regaining the confidence and support of the customer.

Strides

Another major European airline, Lufthansa, is also making big strides in cargo. The airline is building a new super-freight terminal in Frankfurt, due to be ready in 1980, which will have a capacity of 450,000 tons of cargo a year, and designed so that additional capacity can be added as needed. A new system for handling pallets and containers is to be built into the terminal, which will enable cargo items of different sizes (always a problem in automated freight handling) to be transferred to and from aircraft without difficulties. In London, Lufthansa also has a modern cargo terminal, opened in early 1969, which averages a turnover of about 75 tons a day, or about 26,000 tons in 1976. The London cargo centre is already partially automated, with provision for expansion as required.

One of the most advanced features of London Heathrow's overall cargo operations, which puts the U.K. well ahead of other countries in the cargo fields, is the unique computerised Customs clearance system, known as LACES (London Airport Cargo Electronic Data Processing Scheme). This is a system whereby airlines, cargo agents and Customs inspectors are linked together by computer for the purpose of speeding up the clearance of cargo through Customs. The various parties, through Visual Display Units, are linked to a central computer which governs the system and takes the major decisions on how a particular piece of cargo is to be Customs-cleared. Information about a consignment is filed with the computer through a VDU, and the computer advises which of three standard procedures is to be applied for clearance of that item. One procedure, Channel 1, enables Customs officers to release a consignment subject only to a scrutiny of its documents—accounting for about 15 per cent. of all clearances. Channel 2 involves physical examination of the consignment, covering about 20 per cent. of the traffic. Channel 3, covering the remaining 65 per cent. of the goods, gives automatic clearance subject to about an hour's delay to give an opportunity for specific examination if any reason for this arises.

The advantage claimed for LACES is that it replaces much paperwork, and thereby speeds cargo clearance. Some airlines have evolved their own additional techniques for use with this system. Lufthansa, for example, has instituted a system whereby an unloading officer at an aircraft reads off details of a consignment into a small radio set linked to the VDU operator in the cargo terminal, who immediately feeds this information to the LACES computer, thus starting the customs clearance system even before the consignment has left the aircraft.

The LACES agreement with the National Data Processing Service of the Post Office is due to end in September, 1980, and work has been under way for some time to determine the future facilities for air cargo processing at Heathrow and probably also other airports throughout the country. A working party set up to study follow-on systems, concluded late last year that by the early 1980s, the Customs service in the U.K. would have its own computer system for entry processing of goods, while many individual airlines and cargo agents would also have developed to varying degrees their own separate automated data processing systems.

Thus, the working party concluded that there would be a likely requirement for a special computer bureau to provide cargo processing facilities for those commercial users who did not have their own automated data processing systems, and a "switching facility" that would link the computer bureau, individual airline and agents' computer systems, and other elements into a network that would enable a rapid exchange of information between all aspects of the cargo operation. It is envisaged that the computer bureau will be developed and financed directly by its users, while the switching system will be developed and funded by an association of users who will contract to supply the service to constituent members. A Steering Body is now drawing up the detailed statements of operational requirements to enable prospective manufacturers of the computer bureau and switching system to tender their ideas this year, with a decision to proceed on agreed systems design likely to be taken in the latter half of the year. The overall objective is to ensure a phased introduction of these new facilities over the first three quarters of 1980, so that there will be continuity of cargo clearance arrangements currently provided.

Extensive

Any more extensive development of air cargo in the long term, however, would probably have to go well beyond this. The linking of this new system at Heathrow on an international basis with similar systems in, say, New York, Paris and other major cities, might become necessary. This expansion could be carried even to the point where notification could be passed to a destination that a specific consignment had been despatched, with details of its shape, contents and value enabling some measure of pre-clearance to be undertaken even while the consignment was in transit.

Long before this situation comes about, however, it is likely that individual freight forwarders (agents who collect freight from a large number of shippers and combine it into convenient containerised loads for the aircraft concerned) will be installing computers of their own—some already have done

CONTINUED ON NEXT PAGE

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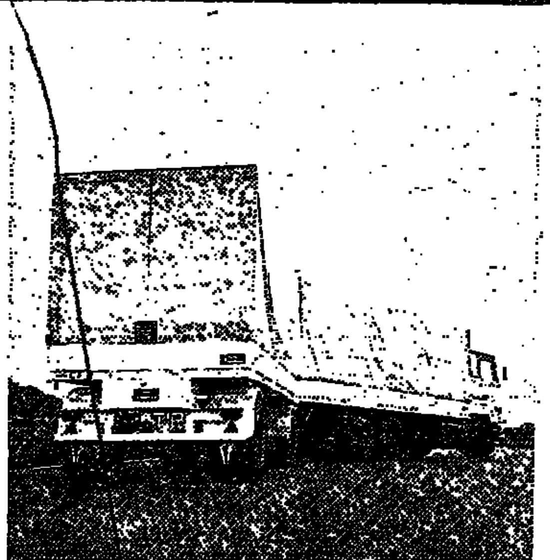

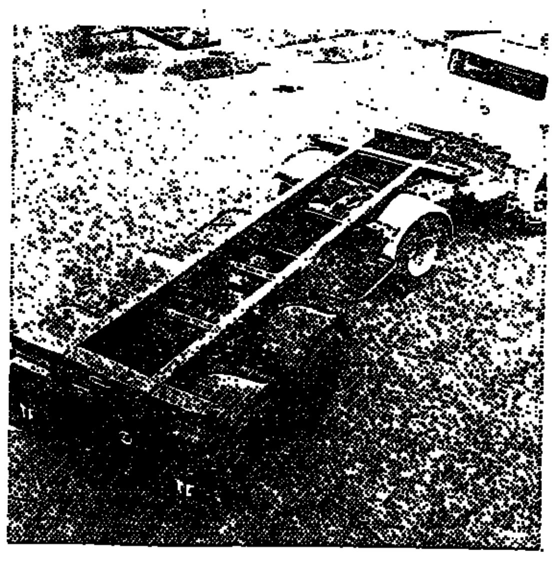

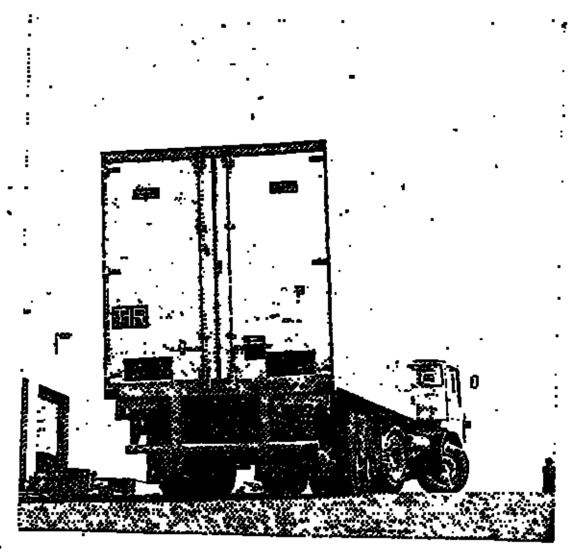

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Hauliers learn from experience

ROAD

The increasing professionalism of road hauliers means that they now show greater resilience even in adverse economic conditions.

IT IS now more than 50 years since road haulage became a competitive force in the freight markets of Western Europe and North America, which is time enough and more for any industry to have attained a measure of maturity. That it has done so has been demonstrated by the industry's performance during the last few years when the industrialised nations have undergone their worst and longest economic downturn since the 1930s.

Haulage rates may have been cut and some firms may have gone out of business; but there has been no evidence of the tendancy to "overcapacity," "destructive and wasteful competition," or "instability" upon which the Salter conference (on Road and Rail Transport) commented so censoriously in 1933 and which has ever since been cited as justifying close governmental control over entry, capacity and tariffs in road haulage.

This is as true of French, West German and U.S. road haulage where one or more of these controls are still operated as of the Dutch and U.K. haulage industries where they are not. It is true that quantity controls over entry and capacity in professional haulage were lifted in this country only in 1969. But, as a study by Dr. Brian Bayliss for the Department of the Environment showed in 1972, the change from the old system of A, B and C licences to the present O licence system had made very little practical difference to the structure of stability of the industry, and it is unlikely that a similar study now would come to a different conclusion. Nor can one find any evidence of the "evils of overcrowding and unbridled competition" in Dutch haulage, which has been free of any significant quantitative controls for very much longer and whose substantial share both of the West German haulage market and of the Continental cross-frontier market might be thought to have made it especially vulnerable during a major business recession.

Entrants

The industry's resilience to economic misfortune can be attributed to a variety of factors. In the first place, it has benefited both in Western Europe and in North America from two or more decades of relatively uninterrupted growth and, in contrast to the situation before 1939, the bulk of that growth has been met by existing haulage businesses rather than by new entrants. Before 1939 the industry was relatively small and most haulage vehicles were owner-hauliers who had only one vehicle and who were therefore in a relatively weak position to withstand price competition and capacity reductions. In the 1950s and 1960s, on the other hand, the growth in business had led to an expansion of capacity by existing hauliers, not only in countries where entry was subject to governmental control but also in those where it was not.

As a result, haulage is a more concentrated industry than is generally assumed. The traditional view of the industry as a small-scale industry may to some extent still be valid. In many countries, 75 per cent. or more of the total number of firms operate five or fewer vehicles. But the vehicles have become steadily larger, they carry more, they travel farther in a year, and they earn a much larger annual revenue. In the ten years to 1974, the total number of goods vehicles in this country increased by about 10 per cent. but their output, in terms of ton-miles a year, rose by 37 per cent. while in the EEC as a whole the road goods fleet grew by 43 per cent. and ton-mileage by 63 per cent.

Furthermore, there are now many more medium-size and large firms than there used to be both in the "own-account" and commercial haulage sectors (even without the extra impetus provided, in this country, by nationalisation). The evidence about the presence of economies of scale—or diseconomies of scale—is inconclusive, but medium-size and large firms now have a substantial share of the haulage market, especially in long-distance haulage and in the commercial haulage sector generally where the number of vehicles has tended to increase only slightly in the past decade. It is, moreover, misleading to think of the haulage market as either homogeneous or national; there are in fact an immense variety of demands for haulage services, differentiated both by geography and by the nature of the service that is sought. For this reason, in particular, one cannot judge the structure of the haulage industry solely in a national context.

The trend towards using larger lorries has of course provoked a reaction from those who express concern about the impact of vehicle noise, pollution, and vibration upon environmental standards. But one wonders what the reaction would have been if the same amount of freight were to be carried by the rather smaller lorries of yesteryear and thus by a very much greater number of vehicles. Of the 17m. vehicles on Britain's roads in 1973 about 1.7m.—or 10 per cent.—were goods vehicles and only 85,000 were "juggernauts" of 24 tons gross weight or more. Yet these 85,000 heavy lorries carried half of all road freight (that is, ton-miles) and accounted for only 15 per cent. of total goods vehicle traffic (vehicle mileage). Indeed, the trend towards larger lorries has resulted in an overall decline in goods vehicle traffic in urban areas, the drop in lorry movements having more than offset the increase in van movements. The growth in heavy lorry movements has tended to be concentrated outside the main built-up areas, and mostly on the inter-city motorway and trunk road network.

This does not mean that suitable measures to minimise environmental damage ought not to be taken. A lot can be achieved by continuing to raise the standards of smoke emission, noise, and lorry and engine design generally, by continuing improvements in the road system so as to allow traffic to pass round sensitive areas, and by further improvements in distribution methods along the lines already developed by many consumer goods manufacturers and multiple stores.

But one should not overlook the substantial improvement in the efficiency of haulage operations and the increasing professionalism of hauliers which has accompanied the trend towards larger lorries and which, in turn, has tended to increase the industry's resilience and adaptability to economic and market changes. These developments have been assisted by the imposition of steadily higher safety and environmental standards upon lorry operators both before and since the introduction of the present 'O' licensing system in the late 1960s.

Influenced

The increased professionalism of both commercial haulage and "own-account" operations has also been greatly influenced by the very substantial changes which have taken place in the demand for haulage services in recent years. This point has already been touched upon, but it needs to be brought out in more detail. The last 25 years have seen far reaching and, in many ways, dramatic changes in the branded foods and consumer goods industries. New products galore have appeared, new techniques of market analysis, promotion, packaging, and merchandising, have been developed, and a wide variety of new consumer preferences and buying habits have grown up.

This is an intensely compe[...]tive field, and both man[...]facturers and retailers need [...] respond quickly and efficientl[...] Over the same period there ha[...] been as marked changes in t[...] pattern and organisation of d[...]tribution—the decline of t[...] small general shop and t[...] growth of the multiple, t[...] supermarket, cash and car[...] wholesaling, mail order, d[...]count store and the suburban [...] out-of-town shopping cent[...] Both for the manufacturer a[...] for the retailer the timing [...] supply and the control of stoc[...] on the shelf and in the pi[...]line, have assumed major i[...]portance.

These changes have led to increasing specialisation [...] transport services, new te[...]niques of mechanical handl[...] and stowage both on and off [...] vehicle, and increased empha[...] on reliability, flexibility, ada[...]ability and responsiveness by [...] carrier as well as upon sp[...] and price. They have opened [...] a demand for "all-in" distri[...]tion services in which [...] carrier undertakes to prov[...] not just a transport serv[...] but a full range of storage, s[...]ply and billing services on [...]half of the manufacturer. T[...] have, in short, made the frei[...] haul between factory and [...]tailer an integral part of [...] whole distribution proc[...] They also help to [...]plain why road goods fre[...] transport has grown so m[...] faster than the inland fre[...] market generally, not only [...] Britain but also in other c[...]parable countries and why, [...] the industry to-day disp[...] much greater resilience du[...] adverse economic conditions.

Handling

CONTINUED FROM PAGE VI

so, for a wide range of tasks, such as accounting, for example, and the preparation of documentation.

Moreover, the computerised handling of customs clearances is only one aspect of the need for modernisation in air cargo handling. Automatic sorting and loading techniques will need to be developed also, going far beyond to-day's fork-lift truck handling methods that are widely used. These will become easier to develop as more and more of the world's major airports follow the Heathrow and Frankfurt examples and instal special cargo terminals in which provision is made for these techniques.

The point is that the entire world air cargo field offers immense scope for much new innovative thinking, on a scale comparable to that which has been applied in many aspects of the passenger handling field.

One area where it seems the airlines could turn their attention with profit is that of sending small parcels by air—not necessarily items of high value, but for which extra speed in transit is required—such as spare parts, tapes, documents, tenders and similar items.

According to the Air Transport Committee of the British Shippers' Council, it can cost as much as £70 for a single shipment sent by air freight for door-to-door movement, while the air letter or parcel post [...] only other alternative, i[...] many countries too [...] although rates can be lo[...] The committee says that [...] companies overcome this [...]lem by operating their [...] private courier services, [...] even this is not entirely [...]factory, especially from [...] point of view of Customs [...]trol. The committee bel[...] that there is the need f[...] close look at the rules, re[...]tions and documentary [...]cedures governing the car[...] of small volume shipmen[...] low value goods. Some for[...] "Green Channel" cus[...] control, with an airport cou[...]to-counter service, [...] expedite clearance and re[...] costs.

Mr. Clive Scott, the chai[...] of the committee, says: [...] airfreight industry has, so [...] failed to provide such a se[...] but the Post Office, with [...] new and developing Data[...] is trying to fill the gap. [...] carriers should look into [...] problem now, and try to [...] up with a parallel service [...]ing the minimum amou[...] import and export docum[...]tion, so as to give a pre[...] service. We would wel[...] evidence from as wide a [...] as possible to enable [...] widen our knowledge on [...] of industry generally."

Michael Do[...]

Lorry battle hots up

HE ARGUMENT over maximum lorry weights for roads roughout Europe is now eaching a climax at the EEC 1. Brussels. For years the gislators have held out hopes achieving standardised eights which would replace the resent variety of regulations nforced by different member ates. This would reduce the oblems for vehicle manufacrers faced with producing to number of different specificans and would make it easier enforce the law in different untries. At the same time it uld bring a clearer indication the requirements for road struction in terms of ength and durability.

The history of road transport ce the beginning of the cenry has seen a gradual, inrable increase in the weight l size of heavy trucks. Market ces have demanded heavier icles in order to achieve nomy of operation. In the ly days, trucks were used y for local distribution, but they came more and more o contention with trains longer distance journeys, ater size and operating efficy has been an increasingly portant factor. At the same e, technical developments e given manufacturers the lity to make better and safer e vehicles.

hroughout this period of development there has been a continual conflict between the economic demands for bigger vehicles on the one hand, and the proper concern of the legislators to ensure that they are safe and do not pose a danger to other road users on the other. To-day these problems have been complicated by the further factor of the obvious environmental dangers posed by heavy vehicles. These result from their exhaust emissions, the amount of land which is needed for the motorways to run them on, and the noise they make.

Acceptable

Much of the effort of truck manufacturers in recent years, therefore, has gone into making heavy vehicles more socially acceptable. Brakes have been improved, engine noise damped down, and emissions reduced. In addition, the authorities have acted to reduce the hours that can be legally worked by drivers on the grounds that tired drivers are a potential accident danger.

A great deal of effort has also gone into making driving conditions more acceptable. The new generation of cabs which have been produced in Europe over the last decade sets much higher standards in driver comfort, with much softer and more flexible seating, better designed controls and a range of extras such as radios and air conditioning. Engine noise inside the cab has been reduced at the same time to levels similar to those experienced in the average family car. All this has helped to make truck drivers more efficient and reliable on the roads.

The next generation of European trucks will inevitably reflect the same kind of practical considerations. Manufacturers will try to make their vehicles quieter, stronger, more efficient, and capable of carrying larger loads. But a big question mark still hangs over pattern of legislation within which they will be forced to design the vehicles.

This will depend on the political reaction to a series of new proposals drawn up by EEC officials and now going through the process of discussion at ministerial level. What the EEC is asking for is a new blanket regulation for all Community countries which would impose a maximum vehicle loaded weight of 40 metric tonnes.

Adapting to such regulations would involve a great number of changes in the Community. Britain at present has a 32 ton gross limit (imperial measure), Germany and France 38 tonnes, while Holland and Italy allow some vehicles of between 40 and 44 tonnes. Indeed, Italy only recently went up to the 44 tonnes level after losing patience with the protracted EEC talks, and other Governments have shown no great willingness to move swiftly towards an overall solution.

The other main point of the EEC proposals relates to axle weights. This is because the loading on any one lorry axle is as important, in terms of road wear, as the overall weight of the vehicle itself. Thus as a compromise measure the EEC has put forward the proposal that all heavy trucks should run on five axles (as opposed to four in Britain at the moment), so that the average axle weight will be only eight tonnes—at the moment it is more in some European countries.

The Commission package would also involve a slight lengthening of articulated vehicles from 15 to 15.5 metres, a measure mainly dictated by the need for extra cab space to accommodate sleeping areas for long distance drivers.

Supporters of the trend towards larger vehicles argue for them mainly on economic grounds. There is little doubt that, as long as the larger vehicles can be loaded to close on maximum capacity, the cost of carriage per mile is reduced by this method: it is more efficient on fuel to use one engine for a journey, heavy lorries take up less road space than two vehicles, and overheads on drivers and so on are reduced.

Some antagonists to heavier trucks, however, argue that they increase road wear disproportionately, along with other indirect costs involved in the road system. There is also a fear that these vehicles will get bigger—although if the new EEC proposals are adapted there will be virtually no change in the size of the present-day juggernauts.

In order to overcome some of these environmental fears, the commercial vehicle manufacturers will be forced, both by public and Governmental pressures, to keep up their efforts to make lorries more socially acceptable. One area in which this can be achieved is safety. Much work is being done at the moment, for example, on improving braking methods so that articulated vehicles can be brought to a halt without jack-knifing. The techniques being investigated involve the use of computerised systems which activate brakes on individual wheels as necessary.

Reduced

Another factor is noise, which has already been reduced substantially inside the cab, but is more difficult to damp down externally. And some manufacturers are even trying to-day to design their vehicles so that they appear less aggressive.

The pressure of rising oil prices are also beginning to prompt greater efforts towards designing more efficient engines. Over the last five years it is calculated that the cost of running a heavy truck has doubled. According to a recent analysis by Fodens, the heavy truck manufacturers, fuel costs are only just second to wages and licence overheads among the total expenses incurred in running a heavy vehicle — fuel accounts for £5,050 for a 50,000 mile year as against wages of £6,300.

Because of these fuel costs, still rising rapidly, manufacturers have within the last year begun experimenting with methods of achieving greater fuel economy by better aerodynamics. Large trailers, for instance, have been fitted with frontal deflectors which create a smoother air flow round their bulk; and York, one of Britain's three larger trailer companies, has come up with a device for reducing wheel contact with the road in carrying light loads. This works by raising one axle, and is claimed to give significant savings in running costs.

The debate about future design will continue to be dominated by the problems caused by the swingeing increases in fuel prices. There has already been a considerable effort to reduce weight in the trailers pulled by articulated lorries, since to cut weight is the quickest way of producing better fuel consumption. There will be similar efforts on the rest of the vehicle.

At the same time, cost pressures are bound to lead towards greater support for larger vehicles among the commercial vehicle lobbyists. The way in which this battle is fought out will be one of the main issues for the industry this year.

Terry Dodsworth

Continental complications

HAZARDS of international haulage for U.K. operators so often stated, not to say stated, that it is useful sionally to remind oneself the number of haulage com-'s going into the overseas et continues to increase.

ere are, unfortunately, no s to plot this trend clearly of the many statistical which will, unless ied, undermine many of more far-sighted road transoptions now being cond inside the EEC. But one is agreed that there more hauliers winning to international work and more frustrated from doing a variety of restrictions.

is the U.K. haulage ry sure, when it complains the restrictions on quotas d for transit through n European countries, ly what sort of system it to see in its place. ally enough, there are who advocate the free-foran open market, but the sagacious and lay-estaboperators want nothing to ith a suggestion which certainly signal a pricewar. At the moment, ational haulage from is based on far more —and the hauliers would re viable—tariffs than is ly the case in the tic market. It is this fact, others, which makes ational work so desirable.

all that, Britain's transl operators have got roblems and there is no that some changes to the would be of great benefit a.

hese problems, quotas is gest and the most diffihe position varies from al deal to deal, but at t of the complaints is the at for certain European ies demand for transit s far outstrips supply. st restrictive regimes are many and Italy, although partment of Transport resaid there would be a shortage of permits for and Hungary this year

tice

ne can fairly question the of the case of, to take ample, West Germany. e country contains a r of key routes to the East (where over 7,000 rries will be heading dur-77), it bears a heavy mental burden.

ake matters worse, Gerhas a sophisticated and loss-making railway netwhich is short of freight, highly disciplined road industry, which is the ne in the Community abiding by a bracket stem designed to ensure y of income for its rs. The result is that hauliers can, for inundercut a German rival to £100 a load for a Gerport load to Britain, with sult that the German in Britain is almost as the Golden Eagle. The Germans already make permits available to hauliers each year and a be forgiven for regarding this as a reasonable limit, although it is elastic to some extent in that hauliers who use the German railway's "piggy-back" service are granted extra road permits as a reward.

The problems this causes for British hauliers are obvious enough, but again they can be overstated. Mr. Brian Starbuck, general manager of the Kent based Whitetrux, 85 per cent. of whose business is with the Middle East, says the £477 "piggy-back" fare from Cologne to Munich has to be set against over £300 in equivalent direct road costs. "If you take into account depreciation on the vehicle and the period of rest for the driver, I'd say there's not much difference in the costs," he says. This, it should be added, is the attitude of a man whose company has been on the waiting list for road permits through Germany and Italy for two years.

Mr. Starbuck's view is that the true professional will overcome the quota problem along with the quality of Middle East roads, lack of service facilities, obtaining of return loads and, not least, the weather. His evidence is that his company, which started its Middle East runs only 2½ years ago, last year carried cargo worth £32m.

Notwithstanding the Whitetrux success story—and others like it are not hard to find—the Department of Transport is taking very seriously the search for a more rational and indeed durable means of ordering the affairs of continental road transport.

The great goal, but elusive as a number of Treaty of Rome ideals, is the EEC multilateral quota in the hope that eventu- development when this principle was accepted, but the level of permits available (272 for Britain) has been frozen for two years, and an attempt to double the number this year has been vetoed by, unsurprisingly, the West Germans.

Britain continues to press for an extension of the community quota in the hope that eventually it will relieve it from what at present is a never-ending round of bilateral negotiations, but at the moment multilateral quotas cover only between 5 and 10 per cent. of community lorry movements across frontiers. The operator who does have a multilateral permit has the right to ply without restriction across the frontiers of member countries.

So it seems likely that haggling over haulage quotas will be a permanent feature of life in the community for many years to come, even though a newer and potentially even more contentious issue is welling up over the same problems of haulage competition.

This concerns the very basic question of haulage capacity in Europe, and there appears to be a growing feeling among some European Governments that in the end some form of capacity control agreement will be necessary, rather in the way that capacity is, at least to some extent, controlled on world air routes. This discussion goes to the very heart of the "dirigiste" versus free market debate over the future of European haulage, which has already divided the Community on a number of issues, and it is difficult to see how such a control system could be worked out in the absence of comprehensive statistics about intra-Community haulage movements.

An even grander design, which certainly appeals to some with a more visionary view of the Community, could involve a form of Community-wide taxation levy to pay not only for main trans-European roadways, but even, if they could be costed, to offset environmental burdens. This is certainly the kind of wider issue which Mr. William Rodgers, the British Transport Secretary, would like to have debated by his fellow European transport ministers, although there is little hope that the results at this stage would be anything more than academic. That such informal discussions have not already taken place is the result of a recent French refusal to take part in a London transport summit and is a further indication, if such were needed, of how lacking in harmony the community is on transport matters.

Argument

If we are to see progress in the foreseeable future on any of these important matters, it is likely to be in the context of some form of trade-off. British road hauliers tend to feel that Mr. Rodgers has his own input to such a bargain readily at hand in the form of agreeing to allow heavier, European-style lorries into Britain, but this argument neglects, as Mr. Rodgers does not, the very strong environmental lobby over the question.

Meanwhile, for the road hauliers, waiting lists or not, life goes on and ways are found around apparent impasses. One increasingly popular way round the quota restrictions is to make arrangements with a Continental haulage business to take advantage of "co-operation permit" system, whereby return loads and extra quotas between countries are traded off. More ambitious, but increasingly common for bigger operators, is actually to buy a stake in a Continental business, thus circumventing quota, backloading and, to some extent, servicing problems in one move.

This latter option is expensive, if only because the French long-zone continental licence (giving freedom for trans-frontier journeys) is itself priced at over £2,000—in itself another instance of the inequality and complexity of road haulage conditions inside the community.

The British haulier, like any other British businessman, will not cease to grumble about the rise in ferry charges (up three times in less than a year), the road taxes (£600 per load through Turkey), the cost of breakdowns and the quotas. But so long as there is business to be won at good returns, the British operator will continue to jockey for a foremost place in European haulage. If he is to succeed, however, he will have to work for a long time to come in a market where conditions never seem to get simpler.

I.H.

Container progress

LATER THIS year when the Europe-South Africa trade is containerised, the culmination of nearly 10 years of planning, one of the world's last major trade routes will have forsaken conventional cargo handling for a system that represents as important a change in transport methods as the change from sail to steam.

The concept of containerisation is not particularly new. Way back in the 1930s a Royal Commission on Transport was reporting that greater progress could be made in the use of containers because of the twin advantages of minimising the risk of damage and reducing the costs of handling. "The great advantages of containers," it suggested, "are so obvious that it is a matter of some surprise to us that they are not more generally used." Not for the first time a British idea had to wait for American enterprise before it could be realised.

An American road haulage contractor started taking cargo in containers by sea in 1956 between New York and Puerto Rico. But it was another nine years before Malcolm McLean startled the conservative world of shipping by announcing that he was putting container ships on the trans-Atlantic trade. He began a decade of hectic activity which has seen nearly all the major trade routes gradually transferring to some form of container system and which by the early 1970s, at least, had established McLean's company, Sea-Land, as the largest container operator in the world.

Impressive

But the U.K. has hardly been a sluggard during the last ten years and British operators and owners have built up an impressive position in the world's deep sea container business. By 1978 the U.K. will have more deep sea load-on load-off and cellular capacity actually in operation than any other flag. Currently the U.K. is lying second to the U.S. in terms of capacity in operation—it is judged in Twenty feet Equivalent Units (TEU), the size of the standardised small containers—but Britain has far more TEU on order. Figures produced by the Containerisation International Year book 1977 exclude barge carriers—which are almost all under the U.S. flag—and pure through-deck roll-on roll-off vessels, but they show the U.K. with 71,254 TEU in service and another 17,581 on order, totalling some 88,835. Against this the U.S. aggregates some 82,852 TEU, of which 75,690 are in service and 7,162 on order, while in third place Japan totals 61,317 with 57,302 in service and 4,015 on order.

Half the fleet currently in service flies a U.K., U.S. or Japanese flag. But West Germany, France, South Africa and the Soviet bloc countries, which currently control less than 20 per cent. of the world deep sea containership fleet, have contracted more than half of the capacity which is either under construction or on order for delivery by the end of 1978.

West Germany is increasing its containership fleet by nearly 50 per cent. to some 60,163 TEU. 40,335 are in service and 19,828 are on order. At the same time the French and Soviet-bloc fleets will be more than doubled in the next two years. The containerisation of the North Europe and Mediterranean-South Africa route means that the South African flag line, Safmarine, which controls about 40 per cent. of South Africa's deep sea shipping, will propel the country into 13th position worldwide from nowhere by the end of 1978 with 11,940 TEU. By the end of next year the deepsea containership fleet will amount to some 528,000 TEU of which more than 60 per cent. will be controlled by the U.K., U.S., Japan, France and West Germany.

Major developments are also taking place this year on the trade routes to New Zealand, but by the end of 1978 most major trades will have been containerised. It started out with the North Atlantic and North Pacific routes but these have now been joined by Europe-Australia, Europe-Far East, Japan-Australia, Europe-New Zealand, Hong Kong-Australia, New Zealand-Japan and finally Europe-South Africa.

The investment in containerisation has been colossal running into many billions of pounds and the development of the principle must now have reached something of a watershed because it cannot be easily grafted on to the facilities offered by developing countries. The system depends on maximising a vessel's earning power by cutting down port time and waiting time for berths to a minimum. Containers can only be cheaper if the considerable economies of scale are achieved, which then produces the many advantages of requiring fewer ships to operate a service, the faster delivery of cargo from the factory to the consumer, greater security and less risk of damage to cargo and reduced insurance premiums because of the smaller number of handling operations.

The main U.K. participants in the South Africa trade, Associated Container Transportation and Ocean Containers Limited, are hoping that the relatively late arrival of this trade in the new cargo era will allow operators to draw on the many lessons learned during the setting up of the Australia route and thus to avoid many of their mistakes. Overseas experience is vital, for the South African programme involves the handling of nearly 500,000 full containers on the deep-sea trades by the end of 1978.

It has been a long process.

SHIPPING

Constant changes in the pattern of sea trade and in methods of handling goods have added to the problems of effective planning.

Nine years ago the South African Government commissioned a report to study the future pattern of its sea trade, which two years later recommended the adoption of containerisation at the earliest possible date. It was not until 1974 that the South African Government and the Europe/South Africa conference, the self-regulatory agency which monitors and establishes freight rates for common carrier shippers on the route, signed an agreement to containerise trade by 1978-79. The sophistication of the planning and execution of the operation explain graphically the difficulties of transferring the system to developing and underdeveloped countries.

The recent development of the trade provides a salutary example of the great uncertainties facing the planners. Unexpected changes in the trading pattern between South Africa and Europe over the last 18 months has caused the conference lines to revise downwards the number of container vessels destined for the trade, because of the great fear of having a surplus tonnage built into the service. Trade has not grown as fast as expected, forcing the lines to cancel their order for the planned tenth cellular vessel for the North Europe service and to postpone indefinitely any decision on ordering the fourth ship for the Mediterranean link. Instead two ro-ro ships are being substituted for the cancelled container ship, and it is intended that these will go a long way towards replacing the residual conventional service, which it has been estimated will carry about 30 per cent. of the trade left untouched by the conference container ships.

In the coming months the container route from Europe to New Zealand is being expanded as OCL follows Associated Container Transportation Australia in developing a full container service. ACTA which decided to push its container service on from Australia to New Zealand in 1972 has since tried to increase its penetration of the conventional cargo market and placed orders for two more container ships in 1974, both of which should enter service this year. The Middle East trade is also being progressively containerised, but it is not being organised on anything like the scale of the South African trade and is developing piecemeal. As one example of these developments Cunard Steam Ships is investing well over £25m. in the next four to five years building up a new Arab road haulage operation linked to an expanded container shipping service to Saudi Arabia.

Banner

At the end of last year the company said that its six-month-old service to Jeddah operated under the banner of the recently formed Cunard Arabian Middle East Line had proved so trouble-free that the company had decided to charter two more specialised container and ro-ro ships to cope with future buoyant demand.

Trade through the Middle East has also been boosted by the decision of the leading container lines operating between Europe and the Far East to route their ships through the Suez Canal. It took nearly 12 months of tense negotiations to persuade the two main consortia involved in the trade, the Trio and Scan Dutch groups to abandon their use of the Cape route. The sailing time between Europe and Japan could be cut by about seven days if vessels maintained their previous speeds so the lines must slow their ships down if they are not to produce a tonnage surplus.

An alternative to the Canal is being pushed by the Zim Israel Navigation Company which involves hitch-hiking containers by road across the Kedem land bridge from Haifa/Ashdod to Eilat. Last year Kedem, the Zim subsidiary carried 3,500 containers amounting to some 80,000 tons between Israel's Mediterranean ports and Eilat. The service owes its existence to the closure of the Suez Canal in 1967 and it carried on after the 1974 re-opening because most Canal traffic continued to be conventional cargo.

Despite the recession from the freight boom of 1974 most container ports have shown improved flows in the past two years. But this has often been at the expense of traditional breakbulk cargo, which as a whole has declined. The movement to containerisation has continued at sufficient pace to ensure a continued worldwide rise in traffic. The U.S. handles the biggest quantity of traffic, 5.6m. TEU in 1975 of which New York accounted for some 1.6m. It is followed by Japan with 1.9m. and the U.K. with 1.5m., but Rotterdam rates second place among the leading ports accounting for just over 1m. TEU in 1975. London was the leading U.K. port with a little over 260,000 containers.

Over the past 10 years the container revolution has stolen all the headlines, but it is salutary to remember that container ships still account for only a tiny percentage of the total general cargo fleet in the world, as little as 2 per cent. according to Maritime Transport Research, the research arm of the Shipbuilders and Repairers National Association.

In mid-1976 general cargo carriers accounted for 96 per cent. of the fleet in terms of numbers and 88 per cent. in terms of gross tonnage as against the 9 per cent. of tonnage taken by cellular container ships—2 per cent. in numbers—and the 2 per cent. for ro-ros. Even looking at the ships on order at the time cellular containers could only manage 11 per cent. in gross tonnage against 79 per cent. for general cargo vessels.

The advantages of contain isation are well-rehearsed, b the reverse of the argument that the system demar enormous initial capital inve ment, lines must join embracing consortia to p cargo because the size of vess increases far more quickly th the volume of cargo, and requires extremely expens control systems. Container li also lack flexibility and m give up some of the m lucrative, heavy, awkwa cargo. It is notoriously diffic to estimate the amount of ca that has gone over to containe but one Dutch analyst has it as low as 8 per cent of in regional seaborne trade excluding bulk cargoes.

Importance

With the over-ordering of tankers during the last th years and the similar situat that developed in bulk carri demand for dry cargo vess has assumed a new importa Ten per cent. of the OE deep-sea dry cargo trade c prises manufactures, and t area has been made the sub of a new study by Marit Transport Research.

Half of manufactures tr as general cargo and this expected to grow at 4.6 cent. a year in volume and per cent. in value during ten years 1975 to 1985. prospects for the 46 per c of manufactures that travel bulk are less promis especially in the two m trades, firstly because the a motive trade will feel impact of the slower growt North American imports, secondly steel products will affected by greater sufficiency in developing c tries.

MTR predicts that Jap impact on the capital gc trade in the late 1970s 1980s is likely to be as strik as its attack on consumer gc in the 1960s. With the incr ing exports of plant and eq ment many more heavy ships will be needed in Pacific. Japan is expected supply half of all the parts vehicles shipped by sea in 1

No single developing coun says MTR, is likely to ma Japan's impact on the shipp market but by 1985 the largest developing count should together constitute economic unit big enough significantly alter cur patterns of trade.

Kevin Dc

Ports prepare for the next generation

IN THE past 20 years the demands that have been made of ports have changed more dramatically than ever before, and with unprecedented speed they have had to absorb the impact of several influences, from the development of air transport, the decline of the coal trade, new ship technology, road transport, revolutionised methods of materials handling and modern communications techniques.

In less than ten years 62 per cent. of Britain's general cargo trade with Europe and Ireland has been unitised and 26 per cent. of the deepsea trade, according to figures published by the National Ports Council. The revolution has not been merely confined to containers but takes in various other means of bringing together mixed traffic from the use of pallets, to lorries and trailers, and packaging, as is the case in the timber trade. Such changes have led to the transfer of traffic between ports and above all the concentration of traffic at particular ports at the expense of others. The need of the new generations of large container ships, which are extremely expensive to build and operate, to save time both in port and while steaming has become a major consideration for the container ports. Entirely new facilities have had to be created and located, and the process has led to the wholesale loss of traffic from some ports to the benefit of others, particularly Southampton.

Apart from containers, the trades with Europe and Ireland in particular have been influenced by the advent of roll-on roll-off vessels. Theoretically ro-ro berths have a lower capacity than a container berth, but they are both cheaper to construct and require fewer men. The major impact on the ports industry to arise from the seemingly endless permutations of size and specialisation of ship has been the constantly changing pattern of traffic.

Rather than leading to a need for greater specialisation of port facilities some developments are obviating such facilities altogether. One far-reaching innovation is the use of refrigerated containers and lorries, which remove much of the need for cold-storage facilities in the port.

Road transport developments have emphasised the impact on ports of ro-ro ships, which have created both new passenger and new freight traffic at several ports. The volumes of traffic have clearly been concentrated on the trades with the main continent of Europe, Scandinavia and Ireland, but ro-ro services are spreading wider and wider, with services now operating to North Africa and the Middle East. The effect has been that what in some cases might have been considered by the ports industry as deep sea traffic has now been converted into the shortest of short-sea trades, which has again brought a resultant transfer of traffic between different ports. Lorries and trailers now reach the U.K. from as far afield as the Balkans and Spain, by the short sea route, and exports are sent in the other direction by short-sea routes and road to the Persian Gulf, Afghanistan and West Africa.

The advent of ever larger ships for the transport of oil and the consequent development of pipelines has brought into existence entirely new ports or has radically developed small existing ones to meet the demands of the oil industry.

Milford Haven, for example, by tonnage handled has become the biggest British port, with four refineries and their associated jetties. Most significantly one terminal is connected by a 68-mile pipeline to the old-established refinery at Swansea, this solution proving cheaper than rebuilding the port at Swansea. The oil industry is also in the process of creating new important ports at such places as Sullom Voe in the Shetland Isles and Scapa Flow in the Orkneys. And the massive increases in ship sizes are affecting other bulk trades in similarly dramatic ways. When the current programme of new ore terminals for the British Steel Corporation is completed new ports will have been created at Port Talbot and Hunterston and there will have been massive transfers of traffic from six other ports.

But the implications for the future go further. The National Ports Council's bulletin, Port Perspectives, points out that development work is well-advanced on the construction of solids pipelines, which could again dramatically change the pattern of present trade.

One system already in use, though not in Britain, is the loading of ships with a mixture of slurry and iron ore which is handled in port as a liquid through a pipeline, which can then continue directly to the steelworks, replacing the cranes, conveyor belts, storage bunkers and men required to handle it in liquid form. Theoretically it should also be possible to handle other solids as slurry, and sulphur, solid at normal temperatures is being liquefied by heat handled in this form.

A further possibility is th velopment of large pneur pipelines, which could co "capsules" of cargo, and port's role is also being repl in some instances by the i duction of barge carriers, w unload not cargo but ba which can then be towed miles inland. LASH (li aboard ship) services wer troduced between Euro ports and the Gulf of M some years ago, but the r of their potential has bee tended by the introductic services from Europe to the Sea and the Gulf, with the of overcoming congestio various heavily clogged Quaysides can be used tha inaccessible to ocean- vessels.

The provision of modern facilities is expensive, a citizens of Bristol will beg discover during the cc years as they are faced rates increases needed to pay off the loans for th velopment of the new Bristol West dock. The B dock, which should begin mercial operations in the future, will probably pro be the last enclosed dock, on a green field site, tl British port will ever de It was conceived many ago before the onset o current trade recession, a designed to cope with eme generations of cargo liner dry bulk carriers up to tons.

The city faced a long with successive governme the 1960s to obtain perm to build the dock, and wi

CONTINUED ON NEXT PAGE

Tanker demand may begin to pick up

CAREFUL optimism has been pressed in recent weeks that e world surplus in tankers uld disappear by 1980, several ars earlier than the best pre- tions made since the end of 73. Not only have there been ns of renewed demand in market; there has also been announcement in New York Mr. Ravi Tikoo, the London owner, of his intention to ler three nuclear-powered kers. Each ship would be about 600,000 tons dwt among largest in the world.

Admittedly the agreement is y tentative between Mr. oo and the Newport News pbuilding and Dry Dock Com- y and several obstacles must l be overcome before a ate agreement is signed are the end of the year. But Tikoo's announcement has e as a major surprise at a when even now something a quarter of world tanker acity is surplus to needs.

f the tanker fleet of some- g over 300m. dwt, over is represented by very large CC), and ultra large crude iers (ULCC) and it is in e areas, where the ships are newest and most expensive the fleet, that the tanker s has hit hardest. Through- ast year, while trading costs luding capital) were een the charter rates of ldscale 33 and about World- 36, the average monthly e voyage rates were consis- y below these levels on the from the Gulf to the West. s did not even climb suffi- ly to cover all trading fully for one-year time ers. Few VLCCs have operating at full design l as owners have preferred sort to slow-steaming as a of improving their cost ery in such a depressed et.

nt

ere have been several joint pts by the industry, in- g leading tanker owners, , shipyards and oil com- s, to sort out their prob- but the most probable sion has been that the of any aid to independent wners will prove to be a drum that cannot be re- l by international organi- s. It is more likely to with the Governments of shipowning countries. ects of the tanker industry ing to health will appar- be determined ultimately litical forces rather than onomic decisions. It is l that only governments operation with the indus- ve the real power to trans- he situation and make oil ortation once again profit- or all.

e is, according to Mr. Douglas, the European g co-ordination manager Chase Manhattan Bank, $1.5bn. of tanker debt tly in default and govern- are exposed to meeting st of at least half this t through supporting, in- or guaranteeing ship- g credits. Bankers are that government money gain have to be handed his year to meet guaran- the accumulated effects tanker surplus hit a r number of independent . At the beginning of ast year there was some (£2.5bn.) of mortgage utstanding on oil tankers ing to a study prepared e International Maritime Industry Forum, the organisation set up to try to stem the enormous losses projected in the tanker industry.

This debt was oustanding on oil tankers which had little prospect of profitable use over the next two to three years and the figure could well rise to $10bn. by 1980. The burden of this debt falls mainly on independent tanker owners who account for nearly 66 per cent. of the world's fleet of tankers and bulk carriers. Much of the impulse behind the speculative ordering boom up to 1974 came from the independent owners, which resulted in the total tanker tonnage on order at the end of 1973 amounting to 99 per cent. of the existing fleet, and fostered the belief among world shipbuilders that capacity could be expanded indefinitely.

Looking at the massive burden of debt, Mr. Chase is of the opinion that liberal ship financing has been a major factor of the tanker depression and was providing a subsidy for shipbuilding of which the taxpayer was oblivious. He argues that if credit was limited to 60 per cent. or even 50 per cent., against the 70 per cent. and upwards currently available, it would be directly beneficial to shipowners. If their fortunes improve then in the medium and long terms the prospects for shipbuilders must also *brighten*.

Another banker, Mr. Otto Norland of Hambros, has warned that the use of over-generous credit terms as a sales tool for shipbuilders would be very harmful for shipping. Commercial banks would withdraw from ship finance if they saw this happening and would limit their involvement to lending against government guarantee or to a small number of top-class international shipping companies.

Over the past 18 months the IMIF has discussed various ways of extricating the tanker industry from its current slough. Much of the debate a year ago centred around the proposal to instal segregated ballast tanks in all tankers above 70,000 dwt. This would have involved the conversion of some of the oil tanker fleet's carrying capacity into tanks for the exclusive loading of ballast.

But a powerful body of opinion has emerged against this idea, particularly among Norwegian tanker owners, who have argued that cash revenues particularly from long-term charters would be adversely affected, and that anyway the measure would have only a marginal effect on the overall surplus. Other proposals that have emerged include the use of tankers for oil storage and accelerated scrapping, regarded within the IMIF as one of the more promising ideas, because it offers governments the prospect of some more work for the hardpressed shipyards.

The IMIF study group on scrapping concluded, after an examination o fthe likely supply and demand for various sizes up to 1980, that there would be a balance between supply and demand, or even a shortage, of tankers up to 100,000 dwt but that the surplus of VLCCs (200,000 dwt and above) would continue to be severe.

The IMIF suggestion for Governmen - sponsored scrap and build policies to take account of the fact that a large proportion of the tonnage that has reasonable trading prospects by 1980 is 10 to 15 years old or more. The IMIF proposals would offer inducements to owners of this ageing tonnage to break up their vessels and place new orders. This idea, which at first sight appears more attractive to shipbuilders than owners, has been formed out of fears that governments may take steps which could increase the existing tanker surplus as a way of saving their shipyards. Or, more probably, government actions may create similar surpluses in other sectors of shipping through the encouragement of the construction of ships for which there is no market demand. Such moves could further jeopardise tanker owners, who are dependent on revenue from other sectors, such as dry cargo *carrying, to service their tanker* debts.

Predictions of an earlier recovery in the tanker market than had previously been expected still have the appearance of commentators clutching at straws, and one London shipping consultant, Mr. A. B. Carpenter of H. P. Drewry, has recently made it plain that he does not foresee any boom occurring in the market in the near future and probably not for a long time. The only exception to this judgment is to allow for the possibility of some major political event triggering off the boom—as it has often done in the past—such an event would be, for example, a complete *disruption of oil supplies from the* Mediterranean.

Mr. Carpenter argues that if new optimism is justifiable it would have a radical impact on the policies of charterers and owners even in the short term. If the view that a position of equilibrium could be reached by the end of this decade were to prevail—previous forecasts have suggested that the tanker surplus would not be reduced sufficiently to support good market conditions until the mid-1980s, if ever—owners could be expected to be reluctant to fix their ships on long-term charters, except at significantly improved rates.

Peaks

Charterers on the other hand could be expected to attempt to start to cover future requirements on a low-cost long-term basis.

Most of the previous peaks in the tanker market have been caused by unpredictable political events—such as the Korean War or the closure of the Suez Canal — and Mr. Carpenter believes that one cannot predict an early return to good market conditions on the basis of historical evidence. Trends in 1976 could be taken as a pointer of how the market will develop. There was a vast improvement over the 12 months with the tanker surplus falling by more than 40m. dwt and rates rising by 40 per cent. World oil demand increased by over 7 per cent. compared with 1975 but a significant part of this was due to re-stocking and the increase was from very depressed levels.

The level of further oil consumption growth will depend on trends in world economic activity and climatic conditions. There is already some evidence that earlier returns to growth *in economic activity are slowing down with a reluctance on* the part of the stronger economies to pursue expanionist reflationary policies.

There is a fairly direct relationship between economic activity and oil consumption. The 1973 energy crisis resulted *in a stagnation of oil demand* in 1974 and a decline of about 4 per cent. in 1975. Last year it is estimated to have increased by 7.3 per cent. Mr. Carpenter argues that allowing for growth trends between 1974 and 1976 there could be a growth rate in world oil demand of a maximum of 5 per cent. per year between 1973 and 1980.

Even this apparently low estimate would require growth to reach levels 8.2 per cent. a year between 1976 and 1980. This would appear far too optimistic and levels of about 6 per cent. growth might be more reasonable. Between 1980 and 1985 energy conservation and development of alternatives to *oil could lead to an even lower* growth rate in world demand for oil of between 3.5 and 3.8 per cent. per year.

In forecasting future tanker demand H. P. Drewry suggests that according to most optimistic predictions of growth in world oil demand, tanker demand would grow from a level of 220m. dwt. in 1976 to about 380m. dwt. by 1980 and to a little under 500m. dwt. by 1985. Such optimism takes no account however, of expansion of oil production in the North Sea and the start of oil production on a large scale from the *north slope of Alaska. If these* factors are taken into account tanker demand would be reduced to about 340m. dwt. by 1980 and about 440m. dwt. by 1985. Taking a more realistic expectation of the growth of world oil demand, tanker demand will rise to only about 280m. dwt. by 1980 and to a little under 390m. dwt. by 1985, and those forecasts exclude the effects of any increased usage of the Suez Canal and newly constructed Middle East pipelines.

On the other side of the coin, H. P. Drewry suggests that with regard to tanker supply the fleet can be expected to grow from about 306m. dwt. in mid-1976 to a little under 340m. dwt. in *mid-1978*. In 1976 about 10m. dwt. were scrapped and this level is unlikely to be exceeded for a few years given the age of the fleet. At the end of 1976 there were some 40m. dwt. of new building on order. Thus beyond 1978 the size of the fleet would decline to a little under 330m. dwt. by 1980 and to about 260m. dwt. by 1985 unless new orders for tankers are placed in this period.

According to Mr. Carpenter: "The slight improvement seen in the tanker market in 1976 must not be taken as a sign that the worst is over. Those opti*mistic forecasts which are now* being propounded should be treated with the utmost caution. Individuals, international organisations and governments must be made aware of the fact that there has been little fundamental improvement in this situation, and that a long hard road lies ahead before a truly healthy industry can re-emerge."

Delayed

Improvements in the picture could be seriously delayed if governments give any encouragement to yards to build for stock by granting support for redundant shipbuilding *capacity, and H. P. Drewry sug*gests that the only support which should be given to shipbuilders should take the form of financial aid to follow a socially acceptable relocation of labour.

Beside the desperate depression in the tanker industry, one of the few sectors of shipping that has encouraged investment in new buildings is the dry bulk trade, where there is still some confidence of growth in the market despite the worldwide recession in sea transport. Dry bulk cargo has become an increasingly important part of all dry cargo trade, amounting in 1974 to perhaps as much as two thirds of the total. The dominant category of the dry bulk trade comprises various ores and minerals, principally iron ore (32 per cent.) and coal (12 per cent.). Agricultural products, principally the five main grains, accounted for about 16 per cent. and forestry products for some 12 per cent.

Demand for vessels of the bulk carrier type clearly depends on the development of international trade in the five major bulk commodity groups —iron ore, coal, grain, phosphate rock and bauxite.

World seaborne dry cargo trade has grown rapidly since 1965, but trade in the major bulk commodities had grown even faster, according to a report from H. P. Drewry called Ocean Trade and Transportation of Dry Bulk Cargo. In the five major commodities the tonnage nearly doubled during the 10 years from 1965. In 1974 the volume of trade was some 315m. tons higher than 10 years earlier and the major bulk commodities accounted for about 40 per cent. of all dry cargo tons.

Shipping actually grew even faster than the volume of trade as a result of lengthening shipping distances and the changing pattern of trade. The main impetus for growth came from iron ore, which more than doubled in terms of tonnage. Between 1965 and 1974 the volume of major bulk cargo increased by about 8 per cent. a year and world seaborne trade in the five major commodities rose to an annual total approaching 650m. tons.

By 1980 trade in major bulk commodities could rise by between 24 and 37 per cent., reaching at least 800m. tons and all types of bulk cargo could reach the order of 1.3bn. to 1.4bn. tons a year. It is this sector of world shipping that still invites investment, and it seems likely the world fleet of vessels over 20,000 tons dwt will have to be greatly enlarged over the next ten years. At the end of 1975 the fleet's capacity was about 115m. dwt. By 1985 there could be a net addition to the bulk fleet over 20,000 tons dwt. of close to 100m. dwt. But already sectors of the fleet are raising fears of over-capacity developing especially in the area of small and medium bulk carriers where owners have been placing contracts heavily.

K.D.

orts

CONTINUED FROM PREVIOUS PAGE

ally granted by the last vative administration, it the understanding that tral government finance be involved.

Bristol it represents a ent of its confidence that once again hold a place the country's major but to other observers in *dustry the West Dock* s to be the product of ceived civic pride. ly dock developments agged behind changes in ttern of shipping trade, ny other ports have been ng to undertake major pments without a teed customer at the end process.

Bristol venture is entirely tive, based on a belief the port does not grow velopment of the whole will be jeopardised. It ng its hopes initially on customers from the rous forest products and has built a forest ts terminal alongside erth with more than sq. ft. of storage space ingle storey shed. But ides of the dock will undeveloped until customers are gained at date in the future—the tion had to stop at some

rding to the National Council there will be a decline in the rate of growth of total U.K. foreign trade in tonnage terms up to 1980, largely reflecting the reduction in imports of crude oil in the wake of the development of the U.K.'s offshore fields. Taking 1973 as the starting point, an annual rate of expansion of 0.2 per cent. is expected up to 1980, although if rates are taken from the main *recession year, 1975*, the average growth rate per annum for the total foreign trade is expected to be 4.7 per cent. to 1980.

Pattern

By 1980 growth should resume at 3.2 per. cent. per annum, reaching an annual total of 335m. tonnes by 1985, half of which will be accounted for by fuels. Non-fuel traffic is expected to rise by 2.2 per cent. up to 1980 and by 3.2 per cent. for the five years thereafter. The NPC is predicting an improvement in the tonnage balance of trade for non-fuel, non-bulk cargoes. These export commodities are relatively high value cargoes and are set to grow by some 3.9 per cent. annually to 1980, while imports will grow at only 2.4 per cent. In the five years 1980 to 1985 these exports should grow by some 5.9 per cent. a year, compared with 2.9 per cent. for imports.

The geographical pattern of the U.K.'s trade has shown major changes under the influence of such factors as the enlargement of the EEC, the loss to competitors of traditional U.K. deep sea markets and the fall in the proportion of trade represented by bulk commodities. Between 1966 and 1973 the EEC's share of the U.K.'s non-fuel trade (excluding iron ore *and sand and gravel*) increased from 22 to 31 per cent., and this trend is likely to continue taking the Community share up to 37 per cent. by 1980 and 39 per cent. by 1985.

The unitisation of cargo will continue to affect the ports industry dramatically. Far heavier capital investment is required to produce higher cargo handling rates, a greater throughput and bigger ships, while at the same time fewer berths are required with greatly reduced labour forces—the dock labour force was virtually halved between 1965 and 1976. The period of sudden change triggered off by containerisation *has now almost* run its course, but what remains to be done is a far more exhaustive assessment of the various methods that can be adopted for handling containers and a greater understanding of the complex organisation that is necessary to make the system function at the peak of its efficiency.

K.D.

Insurance risks

THERE HAVE been plenty of problems for the insurance market providing cover for ships, aircraft and road haulage vehicles. On the one hand it has been necessary to provide very high capacity, so as to meet the peak values at risk. No underwriter, however, wants to write an unbalanced portfolio, with the result that there has been very keen competition for the lower valued units. In many cases, it would seem as though owners have been able to secure cover at less than "cost price."

For marine underwriters, there has been the problem that there is not the same spread of risk as in the past. A comparatively small number of really large container vessels have taken the place of a relatively large number of cargo vessels. This, therefore, is a further problem in trying to achieve a balanced portfolio—particularly when one considers the high valued cargoes carried by container vessels, which will be insured in the same market as the hulls.

In view of the extensive changes in shipping methods, cargo handling, packaging, etc., it is not altogether surprising that traditional cargo insurance should have come under scrutiny. One area where present systems are being called in question concerns the overlapping (or dovetailing) of carriers' liability with normal cargo insurance.

In the past, shipowners carried almost no liability towards cargo owners in connection with cargo carried. They were able to exempt themselves in the contract of carriage from most consequences. The introduction of the Hague Rules put a limited degree of liability on the carrier, but they were not an alternative to a cargo owner arranging cargo insurance.

Lately, there has been plenty of criticism of the two systems "overlapping," and thus being unnecessarily expensive. Suggestions have been put forward that the shipowner's liability should be much wider than at present—which could reduce, or even eliminate, the need for cargo to be insured.

Marine insurers have criticised the suggestions. They feel they could undermine the free flow of sea-going commerce, add difficulties rather than remove them and be detrimental, rather than beneficial, to cargo owners in terms of cost.

Willing

The point has been made that not all cargo owners require the same degree of cover. Some may wish protection only on limited terms—if, for instance, they are willing to "run" the risk of extraneous losses. Frequently, individual cargo owners require insurance for a higher figure than the value of cif plus charges plus x per cent.—which can arise for a variety of reasons. It has been pointed out that some carriers, especially combined transport operators with container services, which set out to provide a "full liability" protection, have had to admit that they are unable to provide the degree of flexibility which may be required.

It would seem impracticable to make a shipowner liable for loss of or damage to cargo during transit when it is not within his control and care. In almost all cases, however, the overall transit of cargo begins well before it arrives at the port warehouse, and continues beyond the warehouse at port of destination. Insurers say that, if they are expected to give full cover for the "ends" of transits, with an extensive liability "regime" put on the shipowner for the time the goods are under his control, there could be serious problems in deciding which party will be called upon to pay for loss or damage.

While the natural corollary to relieving insurers of a considerable liability in connection with the sea transit would result in a saving in premium for cargo insurance, insurers do not expect to be able to make such a reduction—particularly bearing in mind the "undiscovered" damage which is likely to be found on arrival at final destination—and which could have occurred during the sea transit.

Underwriters' premium income has been reduced due to the depressed state of world trade, but, of course, there has not been a corresponding reduction in overheads. Underwriters are watching the position carefully when vessels are brought out of lay-up to start navigating once again. They are trying to make sure that an adequate survey is undertaken at this stage, since, understandably, they do not want to find themselves having to meet claims which arise solely as a result of a vessel having been laid up.

At the time of lay-up, underwriters were more concerned with the position chosen, the adequacy of the moorings, fire prevention aspects, etc., rather than the condition of the vessels being laid up. It is thought especially important, therefore, that the condition of vessels and their machinery should be closely checked as they are brought into commission again.

There is keen competition for the insurance of the hulls of many fleets. The old-established London marine market, consisting of underwriters at Lloyd's and major British companies, is still the largest such market in the world. But there has been keen competition from many other quarters, with the result that, in some cases, London has felt obliged to write business at rates which it considered inadequate, or to let it go elsewhere—in the hope that it will return when the competitors have burnt their fingers.

In some cases, brokers quote two rates—one from the old-established market, and a lower rate from a more competitive market. At the same time, they point out that the security of the latter is not of such a high order. It is then for the owner to decide whether to take "cut-price" insurance in the knowledge that there could be problems over the settlement of claims at some stage in the future.

Liabilities

In addition to the commercial insurance market, P and I Clubs are an important form of protection for shipowners. Nearly all the international clubs are based in or have strong connections with Britain and, essentially, they insure shipowner liabilities on a mutual basis. A wide range of risks are covered, including collision liabilities not covered in the hull and machinery policies, damage to piers and other objects, crew liabilities, etc. The P and I Clubs cover the liability of shipowners to cargo for short delivery; damage, over-carriage etc. Liabilities in connection with pollution, also, are covered.

In view of the substantial liabilities which might have to be met, extensive reinsurance is arranged. Many of the clubs pool claims among themselves which are over a certain agreed figure. In addition, this pool of clubs reinsures on an excess basis—absorbing much of the capacity of the world insurance market in the process.

Congestion of vessels at certain ports in the Middle East and elsewhere does not really present problems so far as the vessels are concerned, apart from the accumulation of risk (which could prove particularly serious in the case of, say, war risks). For cargo, either the premium rate takes into account the anticipated delay, or the Port Delay Clause is added, restricting cover to 60 days after arrival at the port, with an additional premium being payable for any extension.

For hull underwriters, a problem in these inflationary days is that non-essential repairs may be deferred for some years. There is not quite the same difficulty in the aviation sector, because claims payments for total losses represent a higher proportion of the total.

There is keen competition in the international insurance market for aviation business, and some premium rates have been cut quite significantly over the past few years. While, as is well known, there has been an improvement in the overall safety record, it is most unlikely that it will be possible for the trend to continue at the same rate in the future.

Substantial liability insurance is arranged by aircraft operators, and, for passenger-carrying aircraft, many operators buy about as much cover as is available in the world market.

A problem which sometimes arises with goods being transported by air is that there is a significant reduction in the packing provided, compared with the packing which would be used if some other method of transport were to be used. Partly, of course, this is to reduce the cost, and partly because it is felt that less packing is needed for transit by air than, say, than by sea. What has to be remembered, however, is that there is still the journey to and from the airport at each end, and perhaps a transhipment. It is important that packaging should be adequate for normal handling—and the possibility that the goods may be stood in the open, irrespective of the weather, at some stage.

In the past, in the U.K., there has been quite keen competition among insurers for fleets of goods-carrying vehicles. But the market is gradually becoming more settled. There have been plenty of problems for those insurers which have covered vehicles travelling to the Middle East and on other long journeys. Underwriters have had little experience of this type or risk in the past and, as a result, to a great extent, have had to "buy" their experience through meeting higher than expected claims.

Cover

Some owners have found it worthwhile to insure third party risks in one market, and to "top up" that basic cover with fire and theft risks arranged in a different market.

In view of the greater use of British vehicles on the Continent and elsewhere, steps have been taken to provide "on the spot" service in some of the less accessible countries. For instance, a recovery service in Turkey has been set up, solely for the benefit of insurers. It is hoped that this will result in lower claims levels and that goods will reach their destinations more quickly after an accident than, otherwise, would have been possible. It is hoped that the idea may be extended to other areas—and, perhaps, to include breakdown, as well as accident.

Insurers which insure hauliers for their liability to goods carried estimate that damage accounts for about 60 per cent. of total claims cost with theft taking 30 per cent. Some consider that collusion with the driver is responsible for up to 90 per cent. of thefts. While there is a school of thought that the risk of infidelity should not be covered by transit policies, many insurers feel that it would not be practical to exclude it, and that it would be a retrograde step. While little can be done on the risk prevention side regarding damage and fire claims, most insurers are trying to take a positive approach toward security; but there is a limit to the conditions which hauliers are prepared to accept.

John Gasele

Pipelines have a long way to go

THE DEVELOPMENT of North Sea oil and gas has provided a clear demonstration of the importance and advantages of pipelines in the transmission of liquids and gasses. Within a few months the entire British gas system will be fed on offshore natural gas; within the few months the entire British will be self-sufficient in its oil needs, most of the supplies flowing through the Brent, Ninian, Forties and Piper pipeline systems.

Pipelines not only have a contribution to make to the transportation of energy, they can be regarded as an energy saver in their own right, a topical point made in Prof. Barry Commoner's book, The Poverty of Power, just published.

Prof. Commoner refers to recent studies on the energy productivity of various modes of inter-city transportation. In terms of passenger traffic, railroads and buses in the U.S. have the highest productivities (630 and 340 passenger miles per million BTU of fuel, respectively) as compared with 110 for car travel and 120 for airlines. When it comes to freight transport pipelines are by far the most productive (5.260 ton miles per million BTU) as against 1,470 ton miles for waterways, 1,300 for rail freight, 360 for lorries and 20 for airlines.

Not surprisingly, pipelines also have the highest labour productivity; in freight traffic some 12,000 ton-miles per man-hour as against 1,200 ton-miles for waterways, 700 for railways, 94 for lorries and just 19 for airlines.

These figures are useful in that they help to identify where energy can be used most effectively, an identification which is growing to be ever more important as the world realises fuel will never again be cheap and that some of the resources could be depleted in the next 50 to 100 years.

Spurred

The energy crisis which heralded the transformation of fuel prices in 1973 and 1974 also spurred the exploration companies to search more intensively for new supplies of oil and gas. This in turn has brought a sharp increase in the demand for pipeline contractors, pipes, pumping equipment, pipelaying barges and all the associated facilities.

Many in the energy industries would have liked more Government encouragement for exploration and development programmes, particularly in the U.S. where its insatiable appetite for energy is becoming one of the major economic problems. Perhaps the harsh winter has provided the necessary shock treatment.

But still there is a good deal of development, affecting the pipeline industries, proceeding in the U.S. as elsewhere. Perhaps the most dramatic, and costly, illustration is the trans-Alaska oil pipeline which is due to be commissioned this year. The 800-mile pipeline, costing over $7.7bn. has been built to carry oil from the Alaskan North Slope, where recoverable oil reserves are estimated to be estimated to be 9.6bn. barrels.

The pipeline is the most advanced engineering project of its type in the world. Although an audit revealed 3,995 suspect welds, a situation which has gained worldwide publicity, there is now no reason to doubt that most of the problems have been overcome. Alyeska Pipeline Service Company now describes the welds issue as a "tempest in a teapot." British Petroleum, which has a major stake in the pipeline, both in its own right and through its associated company, Sohio takes the view that the standard of the welds and materials are (necessarily) among the highest in the world.

And yet it is an indictment of past U.S. energy policies that there is still considerable doubt about the oil industry's ability to reach the major U.S. markets with the oil. Three long-term pipeline alternatives have been considered by the Alaskan oil partners. The companies could take over the unused El Paso natural gas pipeline to transport crude from Long Beach, California, to Midland, Texas; they could use surplus capacity in the Los Angeles-Texas pipeline; or they could construct a pipeline to run from Seattle across the northern U.S.

As might be expected, the U.S. emerged as the biggest spender on pipelines last year. One survey of non-Communist pipelines estimated that well over 23.580 miles of four-inch and larger lines should have been laid during 1976, at a total cost of well over $6.75bn. Some 7,500 miles of this total was earmarked for the U.S.

The industrialisation plans of Middle East oil producers are also providing the pipeline and process plant industries with a lucrative market. The emergence of gas as a major fuel in Europe and the problems of declining gas production in the U.S. are also encouraging Middle East countries to gather and process associated gas, much of which has been wasted in the past.

The growing importance of the North Sea oil and gas industries cannot be overlooked in any review of pipelines, however. So far more than 1,500 miles of sub-sea lines have been laid in the North Sea and on the basis of programmes already under way the network should reach over 2,000 miles by 1980. Stockbrokers Wood, Mackenzie have suggested that an additional 1.500 miles—over and above these figures—are now on the drawing board or in the "possible" category.

It is a sad fact—at least, from the U.K. balance of payments point of view—that only a small proportion of this main offshore pipework has been manufactured in Britain. Most of the pipelines have been coming from the Continent or Japan.

Latest Government statistics show that in 1975 only 5 per cent. of the offshore pipeline market (worth £58m. in 1975 and £85m. in 1974) was met by British companies. For several years British Steel Corporation has been discussing the possibility of adding the necessary capacity so that it might at least bid for the large diameter, high specification pipework.

But late in January the Corporation announced that it was to invest £8.5m. at its Hartlepool pipe mill to enable it to make the necessary grades. The Tubes Division is to expand the 44-inch pipe mill, a move which could enable the Corporation to make up to 90,000 tonnes of offshore pipeline a year from 1979 in return for a relatively modest outlay.

In recent years there has been a good deal of criticism within Government departments responsible for North Sea supplies over BSC's lack of sub-sea pipe-making facilities. BSC argued, however, that a world over-capacity in heavy pipes production and consequent price competition could make a large new investment unprofitable.

The Corporation's decision to compete in this market after all is probably influenced by the prospect of a gas gathering pipeline network to be built in the North Sea. Initial studies have shown that an 800-mile pipeline could deliver 1bn. to 1.5b cubic feet a day of natural g for the national grid. Such scheme could cost over £2bn.

However the form of the pip line network has still to be d cided. It is not certain, for i stance, whether gas finds in t Norwegian sector will be link into the system. Neither is clear whether the network w be entirely self-supporting based on existing gas pipelin such as the Frigg system or t one intended for Brent g These are some of the possib ties which are to be review by a joint public-private ent prise company in a £3m. stu expected to be completed about a year's time.

Publicity

Although steel pipelines the transmission of billions pounds worth of oil and naturally attract the lion's sh of publicity, it would be wr to overlook the contribution pipes and pipelines made other material such as concre plastic or—the most traditio of construction medium—cla

According to recent Gove ment statistics the U.K. sale clay pipes for sewers and c duits was worth some £39m. 1975. Clay has become parti larly important in the ma facture of small diameter pi although, according to the C Pipe Development Associat the industry considered larger diameter marke dominated by concrete pip as a prime target for growt

The manufacturers of pi of all materials destined water or sewage transmis have been hit inevitably by cut-back in public spending the drop in house building

The Government, w authorities, local author and industry in general ca postpone indefinitely expan and refurbishing plans. It been said in the pipe man turing industry that if a was made on the system replacement of old sewers annual market of £275m. c be created. That is just pa the long term prospects before manufacturers. It i portant, however, that manufacturers be allowe maintain their staffs, their duction facilities and te logical improvements in to meet these challenges. the moment it seems that industry in general is rea seize its opportunity.

Ray Da
Energy Correspo

THE GOVERNMENT'S EXPENDITURE PLANS

INDUSTRY

Emphasis still on jobs

AFTER ALL the buffing and puffing about giving priority to industry over the past year, the latest White Paper on Public Expenditure does indeed show that the total sums allocated to trade, industry and employment have emerged relatively less ravaged than other sectors.

But the detailed figures equally make clear that by far the largest proportion of funds are still going to essentially employment-creating rather than investment projects — for all the talk of switching the emphasis away from such aims towards more constructive long-term asset renewal. Even within the funds allocated to selective industrial assistance of one sort or another, a major part also appears to be directed to such rescue items as British Leyland and Chrysler.

Resources

Publication of the detailed figures on expenditure over the next five years follows a year in which more changes were made to this sector than any other. On the retrenchment side, the Government acted particularly to curb a growth in expenditure on export assistance that was clearly threatening to overwhelm its resources. Latest calculations show that, during the current financial year, refinancing of fixed rate export credits looks like overshooting the estimates of early 1976 by at least £100m. Given no change in policies, growth would have gone on—a thought which is believed to have particularly disturbed the IMF.

Over the summer therefore the Government pressed the clearing banks to increase their proportion of fixed rate export finance from 18 to 21 per cent. on their non-interest-bearing sterling deposits with effect from 1 April of this year and to 22 per cent. from April next year. Then in December the Treasury acted to reduce further the threatened rise in PSBR arising from the ECGD's obligations to refinance a proportion of fixed rate sterling credits provided by the clearing banks by encouraging the use of foreign currency financing of medium and long-term export credit—a move which has brought some criticism from exporters.

Additionally, the Chancellor also moved in December to withdraw the regional employment premium at a saving of around £150-200m. in a full year (the latest White Paper puts the expenditure, in 1976 survey prices, at £239m. in 1975-76; £213m. in the current year dropping to £19m. in 1977-1978 and disappearing altogether after that).

Against these cuts—worth around £350m. in the next financial year and £470m. in 1978-79 at 1976 survey prices—the Government has moved to raise employment assistance in other ways by a number of schemes such as the temporary employment subsidy, the job creation programme, the job release scheme, and expansion of the employment transfer scheme and apprentice training. These have added around £400m. to the "functioning of the labour market" estimates for the coming year and around £200m. in the year after that.

Over and above this the Government has acted to raise direct industrial assistance through additional funds for the NEB (an extra £50m.-a-year in money, rather than constant, terms over the next two financial years); the introduction of a new £100m. selective investment scheme (the main expenditure impact of which will not fall until 1978-79 and thereafter, although the scheme is now open for applications) as well as new industry aid schemes (for which some £205m. has been allocated in addition to the original £15m. wool textile scheme introduced under the last Government). According to the Chancellor's statement of last December, these measures plus some extra funding for the Scottish and Welsh Development Agencies, would add around £80m. to the budget for this sector in each of the next two years, £50m. of which would go to the NEB and the remainder to the other causes.

The net effect of this progressive reshuffling of industry aids cards during the year has been to raise expenditure in this sector by around £110m. in the next financial year compared to last year's estimates (excluding the once-and-for-all benefit of the £500m. sale of BP shares) and to reduce expenditure by around £150m. in 1978-79 to a total of £2.5bn.

What is less clear is whether the reshuffling really does achieve the Government's stated aim of moving towards putting emphasis on selective, as against general, assistance to industry. The Industry Department has fought strongly, and successfully, to ensure that aid to industry was increased rather than decreased during the two successive expenditure reviews of last summer and winter. Nothing that it regarded as essential has been chopped (the regional employment premium was generally thought to have outlived its usefulness) and it has been able to gain increased assistance for industry investment both in July and December.

But the overall figures show that selective aid to industry, at around £550m. a year over the next two years including selective regional assistance and the NEB, is still no more than a fifth of the total, while the increases given in the last year are small compared to the increases given to employment. The funds given to the NEB are in money terms so therefore, unless the Government increases the sums again, the increases of £50m. a year are barely enough to keep pace with inflation.

Under the umbrella of assistance to industry, by far the largest proportion of funds is going to a few major companies which have had to be taken over by the Government. Although the NEB is being encouraged to move into a restructuring role, most of its funds are likely to be spent on supporting British Leyland, Rolls-Royce and ICL (on Lord Ryder's own estimates, around £70m. a year will be needed by Leyland). In addition to this the Government has put in a sum of £250m. direct assistance to Leyland over the next five years while Chrysler is due to take some £95m. between 1976 and 1978—implying that more than half the assistance to industry under Section 8 of the Industry Act will be spent on these companies alone.

TRADE, INDUSTRY AND EMPLOYMENT

	1975-76 £m.	1976-77 £m.	1977-78 £m.	1978-79 £m.
Regional support and regeneration	671	743	475	532
Industrial innovation	373	281	224	214
General support for industry	621	532	515	519
Support for nationalised industries (other than the transport industries)	165	138	94	66
International trade	653	556	367	331
Functioning of the labour market	405	695	842	677
Central and miscellaneous services	94	99	100	97
Transactions in BP shares	—	—	−500	—
TOTAL	3,008	3,074	2,152	2,469
Changes from Cmnd 6393 revalued*	−145	÷363	−389	−148
Capital grants to nationalised industries	+ 85	+ 94	+ 67	+ 90
Cmnd 6393 revalued	3,068	2,617	2,474	2,527

* These figures represent the increase/decrease compared with those given in the last White Paper (Cmnd. 6393) revalued at 1976 prices.

Lame ducks

For those who argue that the Government must move away from support for "lame ducks" and blanket support for regional employment, the White Paper shows just how difficult it is to effect such a major shift. In spite of some arguments for the complete ending of non-discretionary regional development grants, these, at around £300m. a year, remain the strongest single source of aid to industry while the sums going to "the functioning of the labour market" (employment services training etc.) are more than twice this.

Equally there remains reason enough to worry for those concerned about the control of public expenditure. The development of selective assistance and the position of the NEB makes it extremely difficult for Parliament or the public to assess the quality or direction of assistance, as the Comptroller has not been slow to point out.

Nor are the figures as tight as they might appear on the surface. On assistance to aero-engine and aircraft production and shipbuilding the figures leave open the questions of how far the Government will support new engines or the shipyards.

In the inter-departmental struggles which accompanied the expenditure review, the Industry Department may not have come out too badly. But against the overall context of public expenditure, the figures for industrial assistance as such are hardly dramatic.

Adrian Hamilton

MEN AND MATTERS

Workers Control back Bullock

As a general rule it is a fairly safe bet to assume that whatever powerful lobbies are wholeheartedly against cannot be all wrong. The CBI's current campaign against the Bullock report appears to be in this category so it was with considerable interest that we received a delicate pink covered booklet from the North London Workers Control Group which turns out to be about as enthusiastically in favour of Bullock as the CBI is against.

The group's Bullock A-Z, as it is called, is described as "by far the cheapest summary of the report and just as accurate and useful as the more posh versions." Paragraph four of the preface leaves no doubt as to where they stand — "Where the post-war reforms were mainly social the Bullock reforms attack the very heart of capitalism — the organisation of production, distribution and exchange." What is more, they add, for the first time workers will be certain that if they work more effectively "the benefits will not drain away into dividends" and it will then be a "real possibility" (underlined) to order the economy as the working class decides.

After that it comes as no surprise to read "it's small wonder then that the CBI are such dogged opponents of Bullock."

The whole purpose of publishing the A-Z is "to give workers a weapon with which to fight for Bullock," but the problem appears to be that many on the left are also less than enthusiastic about the report, seeing it as leading to the sort of "class co-operation" which they frown upon. But these objections are brushed aside by the Workers Control Group who assert that "the Bullock Report can be pushed further left after (underlined) the battle with the CBI is won."

Moscow's mighty hotel blaze

The Soviet Union is usually highly secretive about accidents or natural disasters and for this reason it is still not known how many people died or were injured in the fire this week-end at Moscow's Hotel Rossiya. Unofficial estimates vary from 20 to 60 dead.

Western journalists who arrived at the scene on Friday night, were repeatedly escorted from the scene and senior police officials refused to give them any details. Onlookers watching the fire from across a nearby street were ushered away even though they were not hindering rescue operations. People who took pictures reported having their film confiscated. Casualty estimates came from medical workers and ambulance drivers as well as Western diplomats, able to speak to doctors at the first-aid centre while checking on their own nationals.

Most of the foreigners were successfully evacuated and several praised the heroism of Soviet firemen.

It was clear, however, that the fire, which took six hours to put out, was a major catastrophe and eye-witnesses reported people trying to leave their burning hotel room with knotted bedsheets and cries for help from the burning upper storeys.

The Rossiya, which is just off the Red Square and within sight of the Kremlin Wall and St. Basil's Cathedral, has 6,000 rooms and is said by the Soviets to be the world's largest. About 500 foreigners were thought to be in the hotel when the fire broke out in the upper storeys of the north wing of the 12-storey complex. The Soviet News Agency Tass said the fire was caused by a technical fault in an elevator engine which spread through the elevator shaft.

Whether the full dimension of the tragedy will ever become known is unclear.

An official inquiry has been ordered but there is no assurance that its findings will be made public or that the number of Soviet citizens who were killed will ever be known.

Within hours after the fire broke out, hundreds of uniformed internal troops formed a human ring around the north wing of the hotel. They were supplemented by hundreds of militia.

The fire was the second at a major Moscow hotel in recent months. Last October, an American was killed at the National Hotel.

"I want it hung just over the coffee percolator!"

Unspeakable bespoke

As you wait anxiously for the Chancellor's promised income tax cuts allow your mind to boggle gently at the following.

Textile group Lincroft Kilgour have just produced their annual report which mentions, inter alia, the marked recovery in the export performance of their cloth merchanting division together with a steady increase in sales of suits by their bespoke tailoring companies, largely, it adds, to foreign visitors. They then comment "it might seem strange to shareholders that the bespoke tailoring division should be doing well at this time when the price for a suit is about £300." The answer lies in a small table beneath which purports to show that a similar bespoke suit would cost £530 in Paris, £500 in Munich and £450 in both New York and Tokyo.

Estate Agents Anscombe and Ringland meanwhile were recently visited by an Iranian businessman to whom such things are mere bagatelle. He had no sooner signed a £265,000, 90-year lease on a Regent's Park maisonette than he asked them to look around for another flat or penthouse in the million pound price range. The Shah's White Revolution is obviously showing results.

Same again

What, asks the latest Portuguese post-devaluation joke, is the height of austerity? Answer. "A man with a banana peel asking his greengrocer for a re-fill."

Observer

HOUSING AND ROADS

Blow for construction

EXPENDITURE reductions in the housing sector will be as severe as Mr. Healey said last December and the cuts have been designed to have as little impact as possible on the most labour intensive areas of the construction industry.

Taken together, however, the cuts in spending on roads, motorways and other environmental services, the overall package still represents a set-back for the building and civil engineering sector. Unemployment in the industry now stands at around ...0 and its own estimates suggest that the figure could rise above 300,000 by the end of the year. With the private housing sector already facing a fall in output, there are fears that the total effect will be a reduction of 15 per cent. ... per cent. in output between now and 1979.

... expenditure reductions announced last July meant reductions of £146m. in the total housing figure for 1977-78 and though the December package subsequently provided for a ... increase in spending on housing in the same year—allocations have been fixed and are going out—the plan was for a £300m. overall reduction in 1978-79.

It is now clear, however, that the planned cuts for 1978-79 will not be as harsh because unnecessarily high forecasts for interest charges were included last autumn in the housing estimates. Now, the net effect of the cuts on housing expenditure will be only £118m. for Britain as a whole, £90m. of which will be in England.

The total housing "cake," expenditure by local authorities accounts for a little over half the total programme of spending on housing, with one-third represented by central government expenditure, mainly on subsidies, and the remainder going to new town development corporations and other public corporations.

Because of higher interest rates, subsidies in 1977-78 will show a rise of £385m. on provision outlined in the last White Paper. To offset this, capital spending cuts have been made across a range of housing activities with some areas being particularly hard hit.

The worst affected sector will be local authority mortgage lending, although the intention is that the building societies will fill this reduction.

Municipalisation programmes will also be badly hit. A total of ...m. had originally been earmarked for spending in 1978-79 on the acquisition by local authorities of existing homes in the private sector but this has been cut back by £70m.

With an eye on the industry's serious unemployment situation, however, the Government has increased housing improvement expenditure in 1978-79 by £100m. Improvement grants to the public have not been materially affected.

The Government's intention, in respect of new council housing output, is to get original expenditure targets back on course and the average annual approvals figure for tenders is intended to be around 100,000 units a year.

Spending on roads has been reduced overall by £183m. in 1977-78 and by £93m. in the following twelve months. The reductions which have been made in the short-term have had to be directed mainly to capital expenditure on roads. Of the reductions in England, £93m. relates to capital expenditure on motorways and trunk roads in 1977-78 and £43m. in 1978-79.

The cut-back on the roads programme has come at a time when construction work in this sector was already at a low ebb and contractors have now virtually accepted that the market has dried up for the foreseeable future.

Apart from new road work, maintenance expenditure is also being reduced. Planned expenditure in 1977-78 has been cut by £6m. to £52m. and the reductions are being concentrated on all-purpose trunk roads.

So while the house builders may have largely escaped any further damage to their already seriously depleted order books, other areas of general construction will continue to be harmed by real cuts in spending and, in particular, the continuing ban on a wide range of work, from road schemes, car parks, public transport projects, water and sewerage schemes to most categories of school buildings, Government accommodation work and local environmental projects.

Michael Cassell

SOCIAL SERVICES

Almost at a stop

THE DEVELOPMENT of the welfare state is at a standstill, although the onward march of its cost, and of the number of publicly-paid employees who run it, has not yet been brought to a halt.

Most of the £6.5bn. health and personal services budget is subject to one or another type of cash limit, with varying degrees of stringency—the exception being the £1bn. family practitioner part of the health service. Yet the limits have proved ineffective in the case of the personal social services, whose cost has escalated from £648m. in 1971-72 to just over £1bn. this year, at the constant, "funny money" prices used in the survey. In real, honest, cash-money the increase has therefore been more of an explosion than an escalation.

These services include the provision of residential homes and day care centres, field social work, visits to the homes of those in care, and aids for the disabled. The limits set for them in last year's White Paper "seem likely to be exceeded in 1976-77," with the result that spending "may approach the level originally planned for 1977-78," says the new White Paper. They are having to find the money from other parts of the budget, including a switch from capital to current spending on personal social services.

This, of course, is the give-away. The increased spending is very largely explained by the increase in the number of "social workers" in this sector; the degree to which this benefits the clients is not easily quantifiable. But in the Adult Training Centres for this staff, to take one example, the number of managers, controllers, clerks, cleaners, maintenance men and the like is almost exactly equal to the number of instructors. This is perhaps the most glaring imbalance; other sectors raise the question of how much of the personal social services budget, apparently so uncontrollable as to burst through its cash limits, really goes to help people in need.

Much of the space in the section on the health service is used on familiar trend tables, brought up to date, to support the assertion that "it has been calculated that, over the next few years, hospital and community health services need to grow at 1 per cent. a year to keep up with the change in population structure" (for personal social services the growth "needed" is said to be 2 per cent.). While health and personal social service spending on persons aged between 16 and 64 amounted to some £60 per head, the average outlay on those aged between 65 and 74 was £165 (1973-74 figures). The number of old people is increasing, probably offsetting the decline in births (£350 each) — QED, implies the White Paper. F· any change in the direction of this thinking the work of the Royal Commission on the NHS must be awaited.

Incalculables

None of the £11.2bn. social security budget is subject to cash limits (except for the £0.5bn. that goes on administration and "miscellaneous services"). But there is a genuine difficulty here. The total amount spent will be more if unemployment increases. Governments are reluctant to make precise predictions about this. Rates of some benefits will have to be increased in line with prices or earnings, according to law, but both those elements of inflation are also unpredictable. Possible increases in child benefits, too, are beyond the forecasters' wit.

The chosen way out is an "estimating margin" of £300m this year, £500m. next year and £650m. in the two subsequent years—all in the expandable "funny money" that will be almost impossible to trace when future White Papers obliterate this year's exercise.

On the health side the net effect of all last year's cuts is a "real" decrease of £88m. on the estimated £6.5bn. for 1977-1978—1.35 per cent. down, followed by a slightly larger fall of £122m. next year, always assuming that the personal social services sector is brought under control. Nearly all the fall is in projected capital spending.

On the social security side the year of "cuts" is followed by an increase of £119m. on £11.54bn. (just above 1 per cent.) in 1977-78 and an extra £441m. next year—all in "real terms" when compared with last year's White Paper. Most of the extra is accounted for by the "estimating margin." Administration, whose costs have risen steadily every year until now, will cost less in future, the White Paper indicates. No "estimating margin" is given for this prediction.

In short, on this 35 per cent. of the total spending programme, the White Paper gives little room for certainty about next year's spending, and none for faith that what is being spent is producing value for money.

Joe Rogaly

COMPANY NEWS

Alexanders Discount starts well

THE FALL in interest rates, which started at the end of last year, has gained momentum and given a very encouraging start to 1977, says Mr. John Glyn, the chairman of Alexanders Discount Company. But, he points out, the company's cyclical pattern of business does not conform to its accounting dates.

In 1976, as reported on January 25, profit after providing for rebate and tax and making a transfer to the contingency reserve, dropped sharply from £0.95m. to £0.26m. and the balance carried forward was also lower at £0.81m. (£0.98m.).

At the year end total investment showed a decline to £368.02m. (£469.8m.). The most marked changes were in Treasury Bills £90.65m. (£180.73m.); commercial and local authority bills £157.76m. (£220.82m.); sterling certificates of deposit £32.04m. (£39.02m.); U.S. dollar certificates of deposit £24.52m. (£8.36m.): and Government securities £35.3m. (£4.81m.).

During th year the portfolio fluctuated widely with the total varying from a peak of £470m. to a low of £199m. Treasury Bill holdings moved between £160m. and £30m. and Gilt holdings between £60m. and nil.

Mr. Glyn explains that it is the length of the portfolio and not its changes in size from one year end to another that is important. Over the year the average life of the book rose from about two months to six months.

Looking back over the year's dealing the chairman says that the first quarter presented profitable opportunities which were taken but the uncertainty of the situation dictated caution. The need to maintain continuity of business and the obligation to take up Treasury Bills meant that a book had to be carried through the remainder of the year in unprofitable conditions.

BELGRAVE ASSETS

Shareholders in Belgrave Assets have endorsed the investment in Kellock Factors and the change in the company's investment policy as detailed in a circular to shareholders earlier this month.

The members rejected a further resolution requiring the directors to continue to manage the affairs of the company in such a manner as to entitle the company to continue to obtain investment trust status.

Olives Paper Mill back in profit

A TURNROUND, from a pre-tax loss at half-way to a profit, was achieved by paper manufacturers Olives Paper Mill for 1976. Before tax the profit was £87,898—which included £50,154 in respect of grants and fire loss claim relating to 1975—compared with £25,547. At half-way the loss was £64,891 (£138,873 profit).

Turnover increased to £4.17m., against £3.39m.

The directors say that while overall demand continues to fluctuate there are signs of a gradual improvement in the underlying trend.

After tax of £27,565 (£15,343) net profit emerged at £60,333 (£10,204).

Stated earnings per 20p shares are 3.77p (0.6p) and an interim dividend of 1.25p net is the only payment for 1976, and compares with 0.84p.

Standard Life bonus

Standard Life Assurance, the largest Scottish life company, is increasing its bonus rates for 1976 on pension business, but leaving them unchanged in respect of individual with-profit contracts.

The reversionary bonus rates on with profit Personal Pension Policies is lifted to £5.00 per cent. of basic pension plus attaching bonuses form £4.25 per cent. in respect of annual premium contracts and to £4.50 per cent. compound from £4.25 per cent. on single premium policies. The amount of bonus to be distributed over the next three years under Controlled Funding Group Pension Contracts will be 2 per cent. per annum of average reserves together with 1 per cent. of net with profit income. The rate under Money Purchase Reversionary Bonus schemes is increased to £5.00 per cent. (£4.25).

The company reports that the total amount to be distributed under all group pension and life business will be almost double that of the previous distribution in 1973.

Advances at Carliol & Tyneside

GROSS REVENUE for the year to January 31, 1977, at Carliol Investment Trust rose from £684,760 to £834,753 and net revenue increased from £473,109 to £591,070 before tax of £221,054 compared with £173,497.

Earnings are shown at 3.627p (2.945p) per 25p share and the dividend is lifted from 2.75p to 3.3p net with a second interim of 2.3p.

The net asset value per share, including prior charges at market value stood at 142.4p (156.4p) at the year end and with prior charges at nominal value at 135.4p (149.2p), both after full conversion of loan stock.

At Tyneside Investment Trust net revenue advanced from £281,604 to £335,040 subject to tax of £132,014 against £102,267.

Earnings rose from 2.786p to 3.491p per 25p share and the dividend is up from 2.75p to 3.3p with a second interim of 2.3p.

Foseco Minsep in Venezuela

Foseco Minsep has formed a new joint venture company, Fosven, with a Venezuelan partner, Atacavi. The company plans to start manufacturing operations during the current year and is already marketing Foseco Minsep products for metallurgical industries in Venezuela.

The initial capital of Fosven is 1m. bolivars, subscribed 49 per cent. by Foseco Minsep and 51 per cent. by Atacavi.

Optimism at Lincroft Kilgour

In his annual statement for the year ended September 30, 1976, Mr. Tony Holland, the chairman of Lincroft Kilgour, the menswear manufacturing and textiles group states that whereas, at this time last year there were no clear indications of a recovery in trade either at home or abroad, the predicted improvement in the established Far East markets has occurred. This, together with a general upturn in overseas trade, should result in a satisfactory increase in export sales for the year, which should more than help to overcome the problems faced in the domestic market where profits have declined substantially, he says.

However, he goes on to stress that the duration of this upturn could be short-lived if widespread forecasts of a slowdown in world trade are proved correct. Equally of concern is the pace at which any price advantage resulting from the fall in sterling is being eroded by inflation at home.

Mr. Holland adds that he does not consider it prudent to make a profit forecast for the current year.

As reported on January 25, pre-tax profit for the year was £764,939 (including unrealised exchange gains), compared with £769,408 (adjusted) for the previous year. Final dividend was 1.91p per share, bringing the total for the year to 3.10p (2.82p) per share.

Spring Grove jumps 22½%

Profit before tax of Spring Grove Industrial Services, the workwear rental, cabinet towel and office cleaning subsidiary of the Charterhouse Group, rose 22.5 per cent. to a record £1,751,000 on turnover 29 per cent. ahead at £11.45m. for the year to September 30, 1976. Return on average capital employed was at a peak of 26 per cent.

Spring Grove Services, the main operating subsidiary, had an excellent year, with growth in all services. Cabinet towel business was buoyant and the range of workwear garments were continuously up-graded.

During the year the linen service provided to hotels and restaurants was sold, but the factory premises have been retained and plans are being prepared for future use of the site.

The expansion of Spring Grove's activities into Scotland made good progress and should make a significant contribution in future years.

Spring Grove began its first operation in Europe during the year with the acquisition of Nico Nijman, one of the largest Dutch laundry operators, and plans have been implemented for the expansion of the Dutch company.

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available whether dividends concerned are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TO-DAY

Interims: Campari, Esa Holdings, Fox's Biscuits, Rame Engineering Industries, Yarrow.

Finals: Abel Morrall, Commercial Union, Cornercroft, Madame Tussaud's, McCleery L'Amie, Metalrax, Ransome Sims and Jefferies, Rea Bros., Sedgwick Forbes, Woodhouse and Rixson.

FUTURE DATES

Interims—	
Johnson and Firth Brown	Mar. 4
Finals—	
Anglo Amer. Invest. Trust	Mar. 10
British Vita	Mar. 3
Fife Forge	Mar. 3
Sungei Krian Rubber Estate	Mar. 2
Taverner Rutledge	Mar. 10

Tor Trust up at halfway

On total income up from £235,249 to £261,904, pre-tax profit of Tor Investment Trust for the six months to January 31, 1977, was £184,111 against £169,635, after bank charges, interest and management expenses of £77,793 compared with £65,614. Tax requires £69,820 against £66,318.

The interim dividend is 1.95p net per 25p share. The directors state that they intend to pay the same final as last year, which would raise the total from last time's 4.225p to 4.3875p. Last year's pre-tax revenue was £333,702.

Net asset value per income share is stated at 32.57p, and per capital share 180.93.

Offer rejected by 'Fags'

The Board of Antofagasta (Chili) and Bolivia Railway Company and their advisers Baring Brothers are not recommending the £1.8m. offer by Deltec Trust and L.E.T. Investments for the 46 per cent. of Ordinary and 70.3 per cent. of Preference shares of the company not already owned.

They say the cash value of the off is approximately the same as the value of the group's cash and investments in the U.K. as at February 16. It attributes little or nothing to either the value or the potential of Antofagasta's investment in Chile, now officially recognised in a contract with the Chilean government as having a worth of £9.4m. as at December 31, 1976.

Furthermore, say the Board, the Preference offer of 34p represents no incease in value whereas a substantial premium has been obtained by Preference shareholders in other take-over situations.

Scottish Life

Scottish Life Assurance Company has increased its immediate annuity rates by an across-the-board £4 per annum for each £1,000 invested and has made a similar improvement to the rates on vesting self-employed and occupational pension plans. Under these new rates an investment of £1,000 will secure an annuity of £177.30 per annum on a man aged 65 or £163.80 per annum on a woman of the same age.

Premier offers £1½m. for Ball & Collins

Terms have been agreed whereby Premier Consolidated Oilfields will offer to acquire the capital of Ball and Collins (Oil and Gas).

The two companies already have common interests in the North Sea, Italy and in the U.S. and have been closely associated for six years. The directors are confident that the combined group will be in a position to undertake a growing role in North Sea exploration and will consolidate and enlarge Premier's investment in U.S. oil production.

The terms are six Premier 5p shares for every Ball Ordinary £1 share. On the basis of Friday's closing price of 13p for Premier the offer values each Ball share at 78p and the entire capital at about £1.5m. Ball closed 13p higher at 37p.

Certain Ball shareholders holding in aggregate 32.3 per cent. of the equity have indicated their intention to accept the offer. Premier at present holds no shares in Ball. Ball holds about 2 per cent. of the Premier capital and upon the offer becoming unconditional arrangements will be made for the shares to be placed.

In the negotiations Premier is being advised by Dawnay Day and Co. and Ball by Arbuthnot Latham and Co.

Newman Ind. sees progress

Strong optimism about the prospects for Newman Industries in the current year was expressed by Mr. Alan Bartlett, the chairman, at the week-end.

Addressing an international sales conference for its subsidiary, Alfred Clough, of which he is also chairman, Mr. Bartlett said that the group would be looking for sales of at least £45m., and a profit margin commensurate with that kind of volume in 1977, almost double those of 1975. The main problem will be meeting the high level of demand world-wide that is being experienced by each of its divisions.

For earthenware manufacturers Alfred Clough, 58 per cent. of output already goes to exports and this proportion is expected to rise, with opportunity for overseas sales expansion especially in the U.S. and West Germany, he said.

ISSUE NEWS AND COMMENT

Rights, placing and requote for Habit

Habit Precision Engineering, formerly Gloucester and Cheltenham Investments, is proposing a rights issue, a placing and a requotation for the shares.

The rights issue is on the basis of three new Ordinary 5p shares for every two held at 20p each, and the placing is of 202,177 Ordinary shares by brokers Rowe Rudd at 20p per share. The placing is roughly 50:50 with private clients and institutions.

Ferguson Securities, a private Northern Ireland company, intends to take up its full entitlement under the rights issue and Rowe Rudd is underwriting the balance of 501,750 shares. After all these arrangements Ferguson will hold 50.2 per cent. of Habit.

The chairman, Mr. Graham Ferguson Lacey, and Mr. Robert Cecil McBride, a non-executive director, each hold half the equity of Ferguson Securities.

Gloucester and Cheltenham's principal asset for many years has been the greyhound stadium at Longlevens. This business has been disposed of with effect from February 23, 1977, and taken over by Clarinfield, a company owned by former Gloucester director Mr. J. N. Sutton. Habit has granted Clarinfield a tenancy of the greyhound stadium for a period of two years at an annual rent of £12,000.

Habit intends to seek planning consent for residential development of the stadium site and also to dispose of its freehold interest. The site has been valued on the basis of its existing use at £225,000. It is unlikely that the value of the site would be enhanced by any alternative user.

The Habit Diamond Group is essentially in the business of manufacturing high quality precision cutting tools for use in the engineering industries. It has a wide range of customers, and in the nine months to last September approximately 25 per cent. of products were sold to the motor car and related industries and 10 per cent. to cut-glass, ceramics and plastics industries. Direct exports totalled 10 per cent. of sales in the period.

Ferguson Securities has agreed to make a loan of £777,000 to the company of which £277,000 will be repayable within six months and the balance in 1982. Having regard to that loan (which will carry an interest rate 4½ per cent. over base rate), and the proceeds on the rights issue the directors are satisfied that the company has adequate working capital.

Although no details are released the company intends to re-equip the existing Habit business and where necessary purchase further assets to increase capacity, and undertake a major export drive.

The forecast for the current year to September 30, 1977, is that the group will make profits of £237,000 before notional interest of £95,000 leaving pre-tax profits of £142,000.

On this basis the directors expect to pay net dividends amounting to 1.3p per share. On the rights price of 20p the grossed-up yield would be 10 per cent. and the p/e ratio 8.6 before exceptional items.

The net tangible assets of the enlarged group are shown at £882,294.

Dealings are expected to start in the shares, which were suspended last December at 45p when Gloucester announced its intentions to take over Habit Diamond Tooling, on Friday, March 4.

● **comment**

Habit still has the racing stadium of the old Gloucester and Cheltenham Greyhounds in its books, but that is the only link with the past, and that is going soon, judging by the company's comments. It is a precision engineering company with a steady profits record and a forecast of £237,000 before interest charges coming to shareholders with a rights issue. The forecast does not look that impressive against the £232,000 made by Habit on its own in 1975, but perhaps time will prove the forecast conservative. Meanwhile the pro forma balance sheet shows cash of £384,000 and, with over £200,000 likely to come from the sale of the stadium, Habit is already casting its eye on likely acquisitions. Net assets per share are 19p and the rights price of 20p is reasonably pitched — though, when dealings start, the opening price is likely to be somewhere under 30p rather than the suspension price of 45p.

FOREIGN AND COLONIAL

In accordance with the terms of the original loan agreement, Foreign and Colonial Investment Trust repaid its loan of Sw.Frs.12m. from Williams and Glyn's Bank on February 24.

Pending dividends timetable

For the convenience of readers the dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table. The dates shown are those of last year's announcements, except where the forthcoming Board meetings (indicated thus*) have been officially published. It should be emphasised that the dividends to be declared will not necessarily be at the amounts or rates per cent. shown in the column headed "Announcement last year." Preliminary profit figures usually accompany final dividend announcements.

[illegible]

Public Works Loan Board rates

Non-quota loans B are 1 per cent. higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Equal repayments.

Effective from February 19, 1977

[illegible]

RECENT ISSUES

EQUITIES

[illegible]

FIXED INTEREST STOCKS

[illegible]

"RIGHTS" OFFERS

[illegible]

BASE LENDING RATES

[illegible]

INTERNATIONAL COMPANY NEWS

Share stakes in Hudig

BY MICHAEL VAN OS

AMSTERDAM, Feb. 24.

THE LARGE U.S. insurance broker Marsh and McLennan and the Dutch AMRO bank have taken shares of 30 per cent. and 20 per cent., respectively, in the Hudig-Langeveldt group, Holland's dominant insurance broking operator, it was announced in Rotterdam to-day.

The Dutch company, which was formed after a merger of a number of major Dutch insurance brokers in 1972, said the move was made within the framework of a programme to broaden its base and also reflected a continuing process of internationalisation. H-L has had strong commercial relations with the two new shareholders for many years. The size of the placed share capital of the group will not be altered as a result of the transaction.

Hudig-Langeveldt's main activity is insurance broking. But is also runs small banking and security businesses, as well as a consultancy operation in the field of automation in the insurance industry, the company has insurance, underwriting and reinsurance operations, and several other consultancies.

To-day's statement gives for the first time some financial background to the company, which has a staff of about 1,600 of which about 10 per cent. works abroad.

In 1975, a gross premium income of Fls.615m was recorded in the insurance brokerage sector, and income amounted to nearly Fls.200m. in the underwriting and accident insurance activities. The year's total revenue was Fls.90.8m. which compares with Fls.80.4m. the year before. After deducting costs, an operating result remained of Fls.10.3m. (Fls.9.6m.). Net profit was up to Fls.2.6m. (Fls.2.2m.).

Marsh McLennan was described in to-day's statement as the leading insurance broker in North America, making a profit of $46.6m. in 1976, or $3.41 per share. It is a quoted company. Hudig-Langeveldt has for some time been the U.S. company's sole Dutch correspondent.

The U.S. minority share acquisition is described as financial confirmation of the two companies' relations. It is pointed out that Marsh McLennan has taken similar stakes in the past years in other leading European insurance broking companies.

AMRO Bank, Holland's second largest commercial banking house, has had good commercial relations with Hudig-Langeveldt for some considerable time. It is stressed that the bank's own insurance activities will continue to run independently.

Ecuador $34m. loan

BY TONY HAWKINS

GRINDLAYS BRANDTS LTD. has won the mandate to arrange a $34m. loan to the Corporation Estatal Pertolera Ecuatoriana (CEPE), the Ecuadorian state petroleum corporation. The seven-year credit, under Republic of Ecuador guarantee is part of a $100m. project financing for a gas separation plant in Shushufindi and two pipelines.

The gas will be sufficient to replace current imports and should realise foreign exchange savings of at least $8m. a year and generate an export surplus for the period from 1979-84.

European Control Data

By David Buchan

BRUSSELS, Feb. 27.

CONTROL DATA, the Minneapolis-based computer hard and software manufacturer, announced to-day that it is to make its European administrative headquarters in Brussels. Mr. Emmanuel J. Otis, senior vice-president, said that the closure, affecting about 100 people, will not affect Control Data's Belgian marketing and services operation.

Mr. Otis explained that Control Data set up its Brussels office in 1969 to supervise its then relatively new European operations. Now, he said, "our European companies are mature enough" not to require the presence of some 60 American specialists in Brussels. Control Data will from now on administer its European operations, which employ some 4,500 people (including manufacturing in the U.K.) direct from Minneapolis.

Profits rise at IEB

BY MARGARET REID

INTERNATIONAL Energy Bank, the consortium bank, raised its operating profit to £1.85m. in 1976 from £973,000 the previous year, while net profit after tax more than doubled to £860,000 from £437,000. Total assets rose to £125m. from £83m., with loans of more than one year increasing from £29m. to £54m. The figures allow for the fall in the value of sterling.

In his report as president and chief executive, Mr. V. R. B. Nordheimer, says that in 1976 the bank managed, or participated in, loans to the energy sector in 15 countries. In February, the bank handled two further North Sea financings totalling $275m. to assist the development of the Claymore Field.

Money and Exchanges

Bank of England Minimum Lending Rate 12 per cent. (since February 3, 1977)

The authorities gave a signal on interest rates to the London money market last week, intending to convey that they were not looking for a sizeable fall in the average rate of discount at Friday's Treasury bill tender.

This was significant because it was the first time since the suspension of the market related formula for calculating Bank of England Minimum Lending Rate that the authorities had given a signal to the market.

The probable intention was to dissuade the market from pushing the bill rate below 10.75 per cent. thus preventing a further widening in the differential between the official MLR of 12 per cent. and the suspended market related rate of 11½ per cent.

This move by the authorities appeared to be in line with general expectations in the market, since it was suggested in some quarters that the fall in the Treasury bill rate on the previous Friday was larger than the Bank of England wished.

There was some surprise that the Bank of England had followed the rate down in its dealing rate with the market for last week, and therefore Thursday's signal may have also been to remind the market that there was no change in the policy of only allowing a slow decline in interest rates.

At Friday's tender the average rate of discount fell by 0.1622 per cent. to 10.7662 per cent., compared with a cut of 0.2412 per cent. the previous week. Minimum Lending Rate remained at 12 per cent. and would have remained at 11¼ per cent. on the suspended formula.

The general improvement in the supply of day-to-day credit in the Money market continued last week, and on Tuesday the authorities did not intervene in any way, for the first time since December 3. The shortage on Monday and Wednesday was moderate, but on Thursday assistance was given by very large purchases of bills, large lending overnight, plus a small amount for seven days as a signal on the bill rate. On Friday the scale of help was exceptionally large, mostly by way of lending over the week-end.

Interest rates were generally very steady throughout the week.

Sterling was steady in the foreign exchange market, with no new major factors to influence trading. The authorities probably intervened to prevent any sharp movements, and may on occasions have added foreign currencies to reserves.

The pound finished the week at $1.7080-1.7090, a rise of 40 points from the previous Friday, and its trade-weighted average depreciation since the Washington Currency Agreement, as calculated by the Bank of England, narrowed to 43.3 per cent. from 43.4 per cent.

The U.S. dollar was generally strong, gaining ground at the expense of the stronger European currencies and the Canadian dollar. The Japanese yen gained ground on Friday, finishing at Y281.87½ against the dollar, compared with Y283.40 a week before.

The dollar's trade-weighted depreciation, as calculated by Morgan Guaranty of New York, narrowed to 0.62 per cent. from 1.05 per cent.

The Swiss franc fell to Sw.Frs. 2.5442½ in terms of the dollar, from Sw.Frs.2.5097½ on the previous Friday. The Canadian dollar fell to 95.73½ U.S. cents from 97.21¼.

Trading in the Spanish peseta was rather nervous, reflecting fears of a possible devaluation. It closed at 69.10 to the U.S. dollar on Friday, compared with 69.75 at the end of the previous week, and was probably supported by intervention by the Bank of Spain. The French authorities also gave assistance to the French franc during the week.

Gold rose $3¾ to $139¾-140¼ on renewed activity ahead of the next IMF gold auction.

[illegible]

FOREIGN EXCHANGES

[illegible]

OTHER MARKETS

[illegible]

GOLD MARKET

[illegible]

EURO-CURRENCY INTEREST RATES

[illegible]

FORWARD RATES

[illegible]

SPECIAL DRAWING RIGHTS RATES

[illegible]

EXCHANGE CROSS-RATES

[illegible]

MINING NOTEBOOK

Another golden summer could lie ahead

BY LODESTAR

GOLD IS getting up steam again. On Friday night it was $141.90 an ounce in New York, the peak to date of the present upward movement and a far cry from the $104 at the end of last August.

Then each International Monetary Fund auction was being approached with a high degree of nervousness. Now the next one on Wednesday, the first in the new monthly series, is being awaited with a high degree of confidence.

This in particular underlines the big change of sentiment in the bullion market. There could be a tremor or two this week in the wake of the recent sharp advance. But the gold bulls are in full cry with anything up to $180 being talked about by the end of the year.

The argument is that even with Russian sales and IMF auctions there could be a supply shortfall this year that would need a much higher price before the gap was filled by sufficient dishoarding and speculative selling. Two other factors should not be forgotten, however.

The first is that another source of supply may arise from the gold being distributed by the IMF to its member countries at the old official price of $42.

Secondly, there could be threatening noises from the U.S. that it might resume its own offerings if the price goes ahead too fast. So enthusiasm should be tempered with caution.

Gold shares have naturally responded to the rising gold price. And two resounding thumps on my desk last week showed that stockbrokers are becoming sufficiently enthusiastic once again to spend money on glossy analyses of the bullion market and the shares of the South African producers.

Political shadows still overhang the latter of course. But it is interesting to note in this connection that from their respective low points last year the Toronto index of Canadian gold-mining shares has risen by 61 per cent. and the FT index of South Africans by 59 per cent.

So to date political fears do not seem to have made all that difference.

Last November two Canadian alternatives to the South Africans were suggested here. Dome Mines have since gone up from $40¾ to $53¾ and Campbell Red Lake from $24 to $30¼.

This column's 1976 South African winner, Randfontein, has only risen from £22 to £24 in the same period and Harmony from 305p to 310p. So over this particular short space of time the Canadians have proved the better bet.

The weighty emanation from stockbrokers Wood, Mackenzie reaches the conclusion that gold share investment must still be approached cautiously in view of the southern African political situation.

But for those who are prepared to take this risk the firm selects Free State Geduld, St. Helena, President Brand and Winkelhaak for cautious bulls of gold; Harmony, Libanon and Buffels for the more optimistic gold bulls; and Doornfontein, President Steyn and Hartebeest as shares which look technically undervalued on a shorter term view.

Flying Fox

The other weighty analysis comes from Grieveson, Grant and here the advice is rather more forthright in that "investors should increase basic holdings in Krugerrands, South African and Canadian gold shares and the U.K. mining house Consolidated Gold Fields (165p)."

Incidentally, the last-named were described last week as a "steal" by one broker analyst well known for his gold share studies. Grieveson's Canadian selections are Camflo, Agnico-Eagle and East Malartic.

Last November I was drawing attention to the Flying Fox—not the far from flying Mr. Justice Fox whose second environmental uranium report is still awaited—but the nickel prospect of that name in Western Australia. The verdict from Perth then was that "this could be the one to watch."

The explorer is the U.S. Amax giant. It has recently gone so far as saying that drilling results at Flying Fox have been "sufficiently encouraging to necessitate a complete revision of the economics of mining at Forrestania based on the ore-bodies at Flying Fox, Digger Rocks and Cosmic Boy."

It was added that drilling on Flying Fox should be completed in a few weeks. Work will then start on a new feasibility study.

This is a far cry from the distinctly cautious noises previously made by Amax about the Forrestania nickel area. The talk in Perth is that one Flying Fox hole yielded 9 per cent. nickel over 16.4 feet and that there are no less than seven rigs on the site with some 41 holes completed to date with mineralisation mainly above a depth of 650 feet.

Amax is partnered at Forrestania by Amoco while Endeavour Oil has a 30 per cent. stake in Digger Rocks where a small 2.1 per cent. nickel deposit has already been established which would presumably be included in any overall venture.

Endeavour holders on this side of the world seem puzzled as to why their shares at 9½p are not more responsive to the Forrestania hopes especially as the company has been negotiating with Amax for a lesser stake in Digger Rocks in return for an interest in Cosmic Boy.

The simple reason for the shares' lethargy is the 3 for 10 rights issue at 10 cents to raise funds for various oil and mineral prospects most of which look to be of a long-term nature so far as cash flow expectations are concerned.

So the possible hutter on the bread is to be more thinly spread over a capital increased by some 10m. shares.

The verdict on Endeavour must thus be that, although the downside risk appears to be small enough, the upside potential must necessarily be long term although, once the new issue has been digested, Amax's Forrestania developments could become something of a stimulating factor.

INSURANCE

Erosion of pay differentials

BY OUR INSURANCE CORRESPONDENT

FROM TIME to time new phrases creep into the insurance vocabulary and in the last few months there has been increasing talk of payroll cover. This is the term which is now usually used to describe one aspect of business interruption, consequential loss, loss of profits cover and is a phrase which was adopted by the tariff fire offices last summer.

The business interruption policy pays not the cost of reinstating direct material damage caused by fire, weather and so on but rather the continuing overheads, the increased cost of working which flow from that damage and have to be incurred until new premises are found or existing ones repaired and the enterprise can get under way again.

For the last 25 years or so under business interruption policies insurers have separated salaries and wages, requiring the policyholder to include salaries cover in his gross profit—presumably on the assumption that he will retain salaried staff virtually come what may—but separately and specifically to insure the wages, usually on the basis that there are covered 100 per cent. for an agreed initial number of weeks but thereafter only partly insured for a further definite period.

In recent years a number of variations and options on this basic theme have been developed, but the basic division between salaries and wages has been maintained.

Of course the distinction between salaries and wages has become more and more blurred, particularly in the present decade when two governments have applied restraint to earnings.

Moreover, the trend of employee protection legislation since 1963 has been to increase the burden the employer bears before he can lay off non-salaried staff that he can no longer employ. The cumulative effect of six statutes is that many employers now need 21 weeks protection.

But this is not all, because from the start of next financial year the State redundancy fund is going to pay less, which means that the employer will have to pay more.

From April, the redundancy fund will contribute only 40 per cent. and this, at the maximum, for the 40-year-old employee with 20 years' service will increase the employer's burden on redundancy from 15 to 18 weeks.

Indeed, the combined effects of legislation and Government retrenchment demand that every policyholder covering business interruption reconsiders from the payroll aspect the extent of the protection that he has and moreover keeps a wary eye open for further changes.

In providing payroll insurance the fire offices are now offering cover on all salaries and wages without differentiation.

The term payroll includes not only the related employers' pension and State NHI contributions but also the remuneration of working directors who are members of the staff. It is for the employer at his option to include or exclude casual employees, outworkers and so on.

The policyholder who at present includes salaries in his gross profit insurance and has a separate wages item can continue in this pattern if he wishes, or he can switch the amount attributable to salaries from the gross profit item, combining it with wages so that all his payroll is covered, firstly at 100 per cent. for the agreed initial period and then proportionately thereafter.

But the individual circumstances of each organisation, with different proportions of salaried staff and wage earners, and within those categories differing proportions of essential and (from the want of a better word) expendable members, may however predicate a different decision. It may be preferable not to arrange what is relatively short-term cover by a separate payroll item but to include the whole payroll within the gross profits item.

This can normally be done where the policyholder has an overall sum insured of £100,000 or more and arranges his cover for a minimum indemnity period of 12 months.

Under the new schemes offered he will pay a lower rate per cent. on his payroll item than on the rest of the cover.

INSURANCE BASE RATES

† Property Growth	12 %
Cannon Assurance	10¼%

† Address shown under Insurance and Property Bond table

ENTERTAINMENT GUIDE

OPERA & BALLET

COLISEUM. 01-836 3161. ENGLISH NATIONAL OPERA. Tomor. 7.00 Der Rosenkavalier; Wed. & Sat. 7.30 Madame Butterfly; Thur. 7.30 Katya Kabanova; Fri. 7.30 Die Fledermaus.

COVENT GARDEN. 240 1066. (Gardencharge credit card booking 836 6903.) THE ROYAL OPERA. Tonight & Friday 7 Otello. THE ROYAL BALLET. Tomor. & Wed. 7.30 The Taming of the Shrew. Wed. & Sat. Eve. 7.30 Concerto, Voluntaries, A Month in the Country. Sat. Mat. 2 La Fille mal gardée. 65 Amphi seats for all perfs. on sale from 10 a.m. on day of perf.

THEATRES

ADELPHI THEATRE. 01-836 7611. Evgs. 7.30. Mats. Thur. 3.0. Sats. 4.0. IRENE. "LONDON'S BEST NIGHT OUT. SPECTACLE, CAPTIVATING TUNES AND RACY COMEDY." People. IRENE. "SLICK, SUMPTUOUS—THE MUSICAL IRENE HAS EVERYTHING." D. Express. IRENE. INSTANT CONFIRMED CREDIT CARD BOOKINGS ON 01-836 7611.

ALBERY. 836 3878. Evenings 8.00. Mat. Thurs. 3.00. Sat. 5.00 & 8.15 sharp. National Theatre Production. MICHAEL JAYSTON in EQUUS by PETER SHAFFER. Directed by John Dexter. "STUNNING AND COMPELLING." Std.

ALDWYCH. 836 6404. Inf. 836 5332. ROYAL SHAKESPEARE COMPANY in repertoire. Tonight, tomor. O'Keefe's WILD OATS. "The Royal Shakespeare Company have struck gold." Sunday Times. With: Nichols' Privates on Parade (next perf. Wed.) and Arbuzov's Old World (next perf. 7 Mar.).

AMBASSADORS. 836 1171. Evgs. 8.0. Tues. 2.45. Sat. 5.30, 8.30. Seats £1.00 to £3.50 or Dinner-Top price seat £6.30. NIGEL PATRICK, PHYLLIS CALVERT, ISABEL DEAN, JENNIFER HILARY in DENIS CANNAN'S DEAR DADDY. "THE MOST SUBSTANTIAL NEW PLAY IN TOWN." Observer. PLAY OF THE YEAR. (Society of West End Theatre Award '76)

APOLLO. 01-437 2663. Evenings 8.0. Matinee Thur. 3.0. Sat. 5.0 and 8.30. JOHN MILLS, JILL BENNETT, MARGARET COURTENAY, ROSE HILL, RAYMOND HUNTLEY, AMBROSINE PHILLPOTTS and ZENA WALKER in TERENCE RATTIGAN'S SEPARATE TABLES. Directed by MICHAEL BLAKEMORE. "THEATRICAL MAGIC." S. Exp.

ARTS THEATRE. Mon. to Thurs. 8.30. Fri. and Sat. 7.00 and 9.15. TOM STOPPARD'S DIRTY LINEN. "HILARIOUS ... see it." Sun. Times.

CAMBRIDGE. 01-836 6056. Evgs. 8.00. Mats. Wed. and Sat. 3.0. LAST 2 WEEKS OF SEASON. JOHN CURRY THEATRE OF SKATING. IS A SUCCESS WELL PERFORMED AND VASTLY ENTERTAINING. Times. "ENCHANTING AND MOST WELCOME FAMILY ENTERTAINMENT." S. Exp. 100 GOOD SEATS held for sale on doors at all Mon. to Fri. Perfs. Instant Credit Cards 01-836 7040.

COMEDY. 01-930 2578. Evenings 8.00. Mats. Thurs. 3.00. Sats. 5.30. 8.30. Winner of all 1975 Awards. 3RD PLAY OF THE YEAR. HYWEL BENNETT in Simon Gray's OTHERWISE ENGAGED. Directed by Harold PINTER.

CRITERION. 930 3216. Evgs. Mon. Tues. Wed. & Fri. 8.0. Thur. & Sat. 5.30, 8.30. LEONARD ROSSITER, DILYS LAYE, PETER BAYLISS and JOHN PHILLIPS, RETURN OF THE SMASH HIT. FRONTIERS OF FARCE. LAST TWO WEEKS OF SEASON.

DRURY LANE. 01-836 8108. Evenings 8.0 sharp. Matinees Wed. & Sat. 3.0. A CHORUS LINE. "A RARE DEVASTATING, JOYOUS, ASTONISHING STUNNER." S. Times. VOTED BEST MUSICAL OF 1976.

DUCHESS. 836 8243. Evenings 8.0. Fri., Sat. at 6.15 and 9.00. OH! CALCUTTA! "The Nudity is Stunning." D. Telegraph. 7th Sensational Year.

DUKE OF YORK'S. 01-836 5122. Evgs. 8.0. Fri., Sat. 6.0 and 8.45. TERRY SCOTT, JUNE WHITFIELD in A BEDFUL OF FOREIGNERS. "GENUINELY HILARIOUS." Gdn. Seats from £1.50 to £5. Also Dinner-Top price Seat £6 inc.

ELLE et LUI. 01-437 2661. Walker's Court, Brewer Street, W.1. Twice Nightly 8.15 and 10.15. PAUL RAYMOND presents PENETRATION. An Erotic Adventure in French porno-graphy. "Good-looking men and women perform various permutations of the sexual act." Evening News. You may drink and smoke in the auditorium.

FORTUNE. 836 2238. Mon.-Fri. 8.00. Sat. 5.00 and 8.00. Mat. Thur. 3.00. AVRIL ANGERS and DEREK BOND in AGATHA CHRISTIE'S MURDER AT THE VICARAGE. 2nd GREAT YEAR.

GARRICK THEATRE. 01-836 4601. Evgs. 8.00. Fri., Sat. 6.00 and 8.40. RICHARD BECKINSALE in "side-splittingly funny." Daily Mail, in FUNNY PECULIAR. "More good laughs than any other play in London." Observer. NOW IN 2nd "OUTRAGEOUS" YEAR.

GLOBE. 01-437 1592. Evenings 8.15. Mat. Wed. 3.00. Sat. 6.00 and 8.40. PETER BARKWORTH, PETER JEFFREY and PENELOPE KEITH in the funniest woman in the West End. Guardian. DONKEY'S YEARS. "MICHAEL FRAYN'S delightful comedy." Ev. Standard. "Two hours of bubbling laughter." Daily Mirror.

GREENWICH. Crooms Hill, S.E.10. 858 7755. Evenings 7.30. Mat. Saturday 2.30. THE SONS OF OEDIPUS. SIOBHAN McKENNA in "Sublime Acting." Times. "The biggest play in London." Observer. Last week.

HER MAJESTY'S. 930 6606. Evs. at 8.00. Fri. and Sat. 5.45 and 8.30. IPI TOMBI. "PULSATING MUSICAL." Evg. News. 2nd GREAT YEAR.

HAYMARKET. 930 9832. Evenings 7.45. Mat. Wed. 2.30. Sat. 5.00 and 8.15. "A PLEASURE TO WATCH." D. Tel. Googie WITHERS, John McCALLUM, Bill FRASER, Clive FRANCIS, Martin JARVIS, Jenny QUAYLE in Somerset Maugham's THE CIRCLE. "I was delighted with this production at Chichester—I am now completely enraptured." Evening News. "Theatrical map ... of the highest order." Jack Tinker, Daily Mail.

ICA. 930 6393. The Mall. JOINT STOCK in A THOUGHT IN THREE PARTS by Wallace Shawn. First Night Tonight at 7. Subs. Eves. 8.

KING'S ROAD THEATRE. 352 7488. Mon. to Th. 9.0. Fri., Sat. 7.30, 9.30. THE ROCKY HORROR SHOW. Now in its 4th rocking year.

LYRIC. 01-437 3686. Evenings 8.00. Mat. Wed. 3.00. Sat. 5.00 and 8.30. JUDY CORNWELL, MICHAEL ALDRIDGE in THE BED BEFORE YESTERDAY by BEN TRAVERS. "Still the funniest comedy in London." Daily Mail. "Wittiest sex comedy of the year." Daily Express.

MAYFAIR. 01-629 3036. 493 2031. Eves. 8.15. Sat. 5.30 and 8.40. Pam Gems' DUSA, FISH, STAS AND VI. "A FUNNY, SPARKLING & VIVACIOUS PLAY." E. Stand. "BRILLIANT." D. Tel.

MERMAID. 248 7656. Food 248 2835. Prev'w. Tonight 8.0. Wed. 7.00. Subs. Evgs. 8.0. Wed. & Sat. 5.0 & 8.0. JOHN STRIDE, PRUNELLA SCALES in IT'S ALL RIGHT IF I DO IT by TERENCE FRISBY. FOR ADULTS ONLY.

NATIONAL THEATRE. 928 2252. OLIVIER: Tonight at 8 The Cavaliers in Concert (sold out except for some £1 seats available from 8.30 a.m.). Tomor. 7.30 Playboy of the Western World. LYTTELTON: Thurs. 6.30 (then 7.15) until 12 March. Peter Shaffer's acclaimed Schaubühne company in Gorki's Summerfolk (simultaneous translation). Car Park. Restaurant 928 2033.

PALACE. Mon.-Thur. 8.00. Fri. Sat. 6.00 and 8.40. JESUS CHRIST SUPERSTAR.

PALLADIUM. 01-437 7373. Daily 2.45 and 7.30. RICHARD O'SULLIVAN in "Buttons." YOOTHA JOYCE, BRIAN MURPHY as Ugly Sisters. CINDERELLA with ROGER DE COURCEY and Nookie. RICHARD HEARNE, ROBERT YOUNG. FIONA FULLERTON. Book Now.

PHOENIX THEATRE. 01-836 2611. Evgs. 8.15. Fri., Sat. 6.0 and 8.40. CARYL BLANCHE. THE SEXIEST SHOW IN TOWN. "SUMPTUOUSLY STAGED." D. Tel.

PICCADILLY. 437 4506. Mon. to Fri. 8.0. Sats. 5.30 and 8.30. Mat. Wed. 3.0. Jerome Kern's Hit Musical. VERY GOOD EDDIE! MAGICAL MUSICAL ONE OF THE CINEMA PRICES. Best Stalls only £2. LONDON'S GREATEST ENTERTAINMENT BARGAIN into 2nd YEAR. "Thoroughly enjoyable, strongly recommended." Financial Times.

PRINCE OF WALES. 01-930 8681. Evgs. 8.0. Friday, Saturday 6.0 and 8.45. MICHAEL CRAWFORD, MICHELE DOTRICE in SAME TIME, NEXT YEAR. "SIMPLY GREAT." Daily Mail. "TRIUMPH FOR CRAWFORD." D. Exp.

QUEEN'S. 01-734 1166. Evenings 8.00. Mat. Thur. 3.00. Sat. 5.00 and 8.30. ALEC GUINNESS, MARK KINGSTON, ANGELA THORNE in YAHOO. "Scintillating theatre." D. Tel. "Alec Guinness is utterly compelling." Guardian.

RAYMOND REVUEBAR. 01-734 1593. At 7 p.m., 9 p.m., 11 p.m. (opens Sun.). PAUL RAYMOND presents THE FESTIVAL OF EROTICA. FULLY AIR-CONDITIONED. You may drink and smoke in the Auditorium.

REGENT. 323 2707. Evenings 8.30. Friday and Saturday 7.00 and 9.15. OVER 1,000 PERFORMANCES. 3rd ECSTATIC YEAR. LET MY PEOPLE COME. AN ADULT MUSICAL. "Never a dull moment." Evening News. 100 tickets held for sale at door.

ROUND HOUSE. 267 2564. Evenings 8.30. Fri. and Sats. 6 and 9. LINDSAY KEMP & COMPANY with VLADEK SHEYBAL in European Premiere of SALOME. LAST 2 WEEKS. BOOK NOW.

ROYAL COURT. 730 1745. JOINT STOCK in DEVILS ISLAND by Tony Bicat. Evenings 8.0. Saturday 5 and 8.30. "I don't think you will see acting more polished or direction more imaginative anywhere in London." B. A. Young, F.T.

SAVOY. 836 8888. Evgs. 8. Mat. Wed. 2.30. Sat. 5 and 8. ROBERT MORLEY, JULIAN ORCHARD in BANANA RIDGE. "HILARIOUS SUCCESS." Dly. Telegraph.

ST. MARTIN'S. 836 1443. Evenings 8.00. Sats. 5 and 8. Mats. Tues. at 2.45. AGATHA CHRISTIE'S THE MOUSETRAP. WORLD'S LONGEST-EVER RUN. 25th YEAR.

STRAND. 01-836 2660. Evenings 8.00. Mat. Thur. 3.00. Sat. 5.30 and 8.30. NO SEX PLEASE—WE'RE BRITISH. THE WORLD'S GREATEST LAUGHTER MAKER.

TALK OF THE TOWN. 01-734 5051. From 8.15. Dng/Dnce. 9.30 Super Revue RAZZLE DAZZLE and at 11 p.m. THE DRIFTERS.

THEATRE UPSTAIRS. 730 2554. Eves. 7.30 SHORT SLEEVES IN SUMMER by Tunde Ikoli.

VAUDEVILLE. 836 9988. Evenings 8. Mats. Tues. 2.45. Sats. 5 & 8. SPOKESONG. A Freewheeling Musical Play. Most Promising Playwright Award. Evening Standard.

VICTORIA PALACE. 01-834 1317. Evgs. 8.0. Wed., Sat. 6.0 & 8.45. CILLA AT THE PALACE with JIMMY TARBUCK. "...A ROBUST DAZZLER OF A SHOW." Daily Telegraph.

WEMBLEY EMPIRE POOL. LAST WEEK. LAVISH ICE PANTOMIME. SLEEPING BEAUTY. Mon. to Fri. 7.45. Mats. Wed. & Thurs. at 3. Sat. 2, 5, 8. £00 to £2.80. Children and Senior Cits. ½-Price except Sats. 5 and 8. Advance Booking at Main Box Office in Wembley Conference Centre (902 1234) or pay at doors. Ample Pkg.

WESTMINSTER. 01-834 0283. Shirley Anne FIELD, Annie ROSS, John JUSTIN, Robert GRANGE. FIRE. Opens 8th March at 7 p.m. Evenings 7.45. MATS. WED. and SAT. 3 p.m. Aldersgate Productions JUBILEE SEASON. FIRE 8–26 Mar. ONE FRIDAY 29 Mar.–16 Apr. THE BROTHER FRANCIS 19 Apr.–7 May.

WHITEHALL. 01-930 6692. Evgs. 8.30. ALF GARNETT in THE THOUGHTS OF CHAIRMAN ALF. By Johnny Speight with Warren Mitchell. Winner of the 1976 Ev. Standard Comedy Award. "It is bloody funny." S. People. "The appeal of it is appalling." D. Tel.

WIMBLEDON. 946 5211. Evgs. 7.30. Mats. Sat. 2.30. FIRE ANGEL. Company of 30. Orchestra of 18. For Two Weeks Only. World Premiere Prior to Opening at Her Majesty's Theatre.

WINDMILL THEATRE. 01-437 6312. Twice nightly at 8.00 and 10.00. PAUL RAYMOND presents RIP OFF. THE EROTIC EXPERIENCE OF THE MODERN ERA. "Takes to unprecedented limits what is permissible on our stage." E. News. You may drink and smoke in the auditorium.

WYNDHAM'S. 836 3028. Mon.-Fri. 8.00. Sat. 5.15 and 8.30. Millicent Martin, Julia McKenzie, David Kernan, Ned Sherrin in the "BRILLIANT MUSICAL ENTERTAINMENT." People. SIDE BY SIDE BY SONDHEIM. "GO TWICE." S. Morley, Punch. "GO THREE TIMES." C. Barnes, NYT.

YOUNG VIC (by Old Vic). 928 6363. Ton't 7.45 ROMEO & JULIET.

CINEMAS

ABC 1 & 2, Shaftesbury Ave. 836 8861. Sep. Perfs. ALL SEATS BKBLE. 1: WHITE ROCK (U). GENESIS (U). Wk. & Sun. 2.00, 5.20, 8.20 (last 3 days). 2: CROSS OF IRON (X). Wk. & Sun. 2.00, 5.10, 8.10.

CASINO. Old Compton Street. 437 6877. BATTLE OF MIDWAY (A). IN SENSURROUND. Wkdys. and Sun. at 2.25, 5.30 and 8.35. All seats £2.

CURZON. Curzon Street, W.1. 499 3737. COUSIN COUSINE (AA) (English Sub-titles). Progs. daily at 2.30 (not Sun.), 4.25, 6.25 and 8.30. Last 3 weeks.

EMPIRE, Leicester Sq. 437 1234. Sep. perfs. All seats bookable for last eve. perf. at the box office (11 a.m. to 7 p.m. Mon.–Sat.) or by post. THE LAST TYCOON (AA). Progs. Daily 2.30, 5.30, 8.30.

LEICESTER SQUARE THEATRE (930 5252). NETWORK (AA). Sep. progs. Div. 2.00, 5.15, 8.25. Seats bkble for 8.25 prog. Mon.-Fri. & all progs. Sat. and Sun. except late night show.

ODEON, Leicester Square. (930 6111.) THE PINK PANTHER STRIKES AGAIN (U). Sep. progs. Dly. 2.30, 5.30, 8.30. Seats bookable by letter or at box office for Mon.-Fri. 8.30 prog. and Sat. and Suns. All progs. except late night show.

ODEON, Marble Arch. (723 2011/2.) Glenda Jackson in HEDDA (A). Sep. progs. Wk. 2.15, 5.15, 8.30. All seats bkble.

PLAZA 1 & 2, Lwr. Regent St. 437 1234. Sep. perfs. All seats bookable for last eve. perf. Box Office 11 a.m. to 7 p.m. (not Suns.). No phone bookings. 1. EMILY (X). Progs. Wkdys. 2.00, 4.05, 6.20, 8.40. 2. Jodie Foster in THE LITTLE GIRL WHO LIVES DOWN THE LANE (AA). Progs. Weekdays 2.15, 4.15, 6.20, 8.30.

PRINCE CHARLES. Leic. Sq. 437 8181. Must End March 2nd. The One and Only Original EMMANUELLE (X). Sep. Perfs. Dly. 2.45, 6.15, 9.00. Seats Bkble. Lic'd Bar. From March 3rd: INSERTS (X). Sep. Perfs. Dly. (inc. Sun.) 12.30, 2.45, 6.15, 9.00, 11.45. Advanced Booking All Seats—All Perfs.

SCENE 1, 2, 3, 4. Leic. Sq. (Wardour St.) 439 4470.

SCENE 1. Cont. Perfs. Div. 12.45. Lte. Show Fri. & Sat. 11.40. THE TEXAS CHAIN SAW MASSACRE (X) London. Progs. 12.45, 3.20, 5.40, 7.15, 9.25. Lte. Show Fri. & Sat. 11.40.

SCENE 2. Cont. Perfs. Div. 12.45. Lte. Show Fri. & Sat. 11.25. SEBASTIANE (X). Derek Jarman's and Kenneth Anger's Classic SCORPIO RISING (X). Progs. 12.40, 2.15, 4.30, 6.50, 9.05. Lte. Show Fri. & Sat. 11.25.

SCENE 3. THE MESSAGE (A). Sep. Perfs. Dly. 12.40, 4.10, 7.50. Lte. Show Fri. & Sat. 11.50.

SCENE 4. Cont. Perfs. Div. 12.40. Final Week: Ends Mar. 2. PICNIC AT HANGING ROCK (A). Progs. 12.40, 2.50, 5.40, 7.35. Sn. Thurs. EMMANUELLE (X).

STUDIO 1, Oxford Circus. 437 3300. Walt Disney's Treasure of Matecumbe (U). Progs. 1.00. Children ½ price.

STUDIO 2, Oxford Circus. 437 3300. MONTY PYTHON & THE HOLY GRAIL (A). 2.40 (except Sun.), 5.00, 9.20. AND NOW FOR SOMETHING COMPLETELY DIFFERENT (A). 1.05 (except Sun.), 4.20, 7.40.

ART GALLERIES

AZIZA presents SALAH TAHER, Egypt's most celebrated artist, at Gallery Aziza, 17 Church Road, Wimbledon, S.W.19. Tel. 01-946 4727. Daily 10-6 from 8th-27th February 1977, including Saturdays and Sundays.

BEDFORD HOUSE GALLERY, 106, Kensington Church St., W.8. EDDIE WOLFRAM paintings. Open Tues.-Sat. until Feb. 26. 10.00-1.00, 2.00-6.00.

CITY OF LONDON ART EXHIBITION, Guildhall, E.C.2. Mon.-Sat. 10-5. Until 19th March. Adm. free.

GILBERT PARR GALLERY, 285, King's Road, Chelsea, S.W.3. LEE BREWS, Mixed Media Paintings. YOLANDA SONNABEND, Stage Design, Drawings. Feb. 18 to March 12. Open all day Sat. Closed Mon.

MEDICI GALLERY, 26, Thurloe St., S.W.7. JAN HOGGSTEYNS.

WATERCOLOURS IN THE MALL. (R.I.) 165th Annual Exhibition. Mall Art Galleries, The Mall, S.W.1. Daily inc. Sun. days 10-5. Until 13th March. Adm. 20p.

CLUBS

EVE. 189, Regent Street. 734 0557. A la carte or All-in Menu. Three Spectacular Floor Shows. 10.45, 12.45, 1.45 and music of Johnny Hawkesworth & Friends.

GARGOYLE. 69 Dean Street, London, W.1. NEW STRIPTEASE FLOOR SHOW. "THE GREAT BRITISH STRIP." Show at Midnight and 1 a.m. Mon.-Fri. Closed Saturdays. 01-437 6455.

Letters to the Editor

Avoid dangers of concentration

From The Head, Department of Management, Manchester Polytechnic.

Sir,—At last we have well-researched data indicating the dangers of industrial concentration and the importance of the small company. *The Evolution of Giant Firms in Britain* by Professor Prais raises several issues worthy of debate.

The structure of British manufacturing industry has often been criticised for its reliance on small companies, a view for which there is no supportive evidence either in performance terms or in international comparisons of industrial structure. Indeed, if one compares the structure with our European neighbours we are *less reliant* on small companies.

The statistics quoted for West Germany, the U.S. and France show higher percentages of small companies than in the U.K. but what is not indicated is the trend. The percentages are in *fact increasing, the direct opposite* to what is occurring in this country, which forces me to ask about the *increasing* concentration in our industry, particularly if we are to accept the forecasts of Jackson and Newbould that concentration will continue for many years.

Professor Prais suggests that the significant decline of the small firm in the U.K. has perhaps gone too far and raises the question whether the undistinguished progress of the economy is associated with the lack of small company entrepreneurs.

The U.S. has experienced both the problems and the advantages of concentration and development of giant corporations. Current developments over there suggest that there is a fair degree of difficulty in maintaining the traditional routes to development and *corporate* growth such as diversification, heavy investment in R and D, etc. The increasing *competition* from the Far East and Europe has eventually forced them to adopt alternative strategies. These are important.

Currently, considerable effort is being directed towards the establishment within existing large organisations of venture management groups, an approach based on the need to replicate those attitudes generally associated with entrepreneurial activities prevalent in small companies. At the same time this is seen *as an admission of a* deficiency within large organisations and in this respect one could argue that the approach is remedial. Couple this approach with the increase in the number of small companies in the U.S. industrial sector and one begins to see a reaction against concentration.

The struggle to develop the *entrepreneurial* spirit within large organisations reminds one of the days when Britain was the leading manufacturing nation. Some of the reasons advanced for Britain taking the lead in the Industrial Revolution rather than France are well recorded, but the most important *of these* bears mention.

The deciding factor was the effect of the differences in the *attitude of* Government towards industry. In France, industry relied heavily on the Government, due mainly to the collapse of the financial policies during the 16th century, the ensuing *traumas,* and the consequent fear of repetition. In England we had no Government interference, an approach which in contrast enabled the entrepreneurs of the day to identify and invest in opportunities within industry. The entrepreneurial spirit was the significant difference, the policies in Britain encouraged such risk-taking approaches and sustained growth.

We must recognise the dangers inherent in continued concentration and at the same time the Government must recognise the effects of fiscal policies which do not provide incentives or encourage entrepreneurial developments. Small is not only "beautiful" but is manageable and essential for economic development, facts which other countries have evidently accepted.

K. Swann.
Manchester Polytechnic,
Hilton House, Hilton Street,
Manchester.

Baseless fabric of our vision

From Mr. M. Ashfield

Sir,—His many fans would not usually judge Samuel Brittan to be lacking in radical ideas, or to have failed to follow through the logic of an argument. But I feel his review (February 24) of Prof. Hirsch's book ("The baseless fabric of our vision") falls below his best in these two respects.

Talking about scarcities in our world, Mr. Brittan says "only a handful can become Field-Marshals." Is this really true, or is it just that the statement accepts to-day's hierarchies too easily? There is no proof at all that hierarchies are best in industry. *Indeed, it has been* maintained by Mr. Brittan himself that British industry's main problem is the under-use of talents, and that our current structures do not allow people to contribute what they could. I support this view, and the *co-operative approach that is its* corollary.

Mr. Brittan is also less radical *than he could be, when he says* that it is impossible for education based on Oxbridge-type *tutorials to be extended to all* students at low cost. This statement is true if you assume that to-day's educational institutions are the only possible ones; but *not if you envisage the spread of* an Open University approach. What would it cost to have a decentralised organisation of education, using some of the *time of the many graduates all* over the country, who could well run tutorials in their own homes?

On the matter of logic: Mr. Brittan explains that "the trouble with any market *economy is not that it represents* the law of the jungle, but that the underlying moral code is too subtle and sophisticated to gain men's hearts even if it were explained to them." He gives examples, such as that of the businessman, who "is expected *to follow self-interest in satis*fying market demand, but not in political lobbying to obtain subsidies *or tariffs, or in bribing the* anti-trust authorities."

Mr. Brittan does not go far *enough. In order for a free* market in goods, labour, or even governments to work well, it has to be lubricated by plentiful *information.* The public would be protected from the businessman if all government decisions had to be justified in public; and the same applies to the activities of the anti-trust officials, politicians, and trade unions which *Mr. Brittan mentions.* A free market needs publicity and access to make it work, in *addition to human ingenuity. If we* do not have well-functioning markets in Britain to-day, it is *because in this century we have* not tried hard enough to supply the additional ingredients.

M. A. F. Ashfield.
22 Highfield Road,
Flackwell Heath,
High Wycombe,
Bucks.

Repel some boarders

From Mr. N. Baker.

Sir,—I hope your readers will not swallow whole the simple *assertion by the chairman of the* British Tourist Authority in his letter (February 16) where he describes the huge influx of overseas visitors into London last year which is likely to be repeated this year.

I cannot accept his suggestion that "whether goods are despatched by sea or air or are sold over the counter in London, Newcastle or *Dover as the case may* be is immaterial." The pressures placed upon residents of inner urban areas in this country, already extremely great, have been increased to breaking point certainly in London by last year's invasion of overseas visitors.

The true costs in terms of hotel growth, overcrowding on public transport, shortage of other facilities, displacement of homes and long term residents in inner *urban areas as a consequence of* this influx has never so far as I know been adequately considered. Nor has the true cost of importing the necessary labour to staff hotels and other facilities been properly calculated; it is quite likely that no calculation could ever be even partially accurate.

The implications for the quality of life not only in our inner urban areas but also in the rest of the country which will, if our cities fail in the way that New York may fall, have to bear the brunt of this failure are extremely serious.

Surely it must be in all our interests that our exporting is *done by actually selling our* goods overseas in the normal way. Let us hope to keep the *annual invasion down to* tolerable level—for all our sakes.

Nicholas Baker.
3 Leinster Square, W.2.

Power as a potential export

From Mr. W. Whalley.

Sir,—Sir Alan Cottrell's letter (February 23) well illustrates the dilemma facing our policy makers in respect to nuclear power.

It is clear that Britain leads the world in its knowledge of gas cooled reactors. Hopefully the modified AGR will shortly be established as a confirmed success. But it also seems that the prospect of securing export orders is remote. There is however another possibility. If we are unable to export our technology we might conceivably be able to export its fruits, namely electricity.

It might perhaps be profitable to build an export orientated surplus AGR generating capacity. For many years past we have exchanged electricity with the French via a submarine cable of modest capacity. All members of EEC have impending power crises with the exhaustion of fossil fuels, and nuclear power programmes based on the controversial PWR. There seems a large potential market for power, rather than power stations just on our door-step. The long term profits to be made out of exporting electricity instead of generating plants, might well make this an attractive proposition. In this case an all British AGR industry could be based on building stations in this country for the purpose of exporting the power to the Continent.

We are experiencing ever increasing difficulty in producing goods which foreigners wish to buy. Here is a case in which we know how to make a product which is in great demand throughout Europe. We already know how to transmit power across the *channel,* we are doing it, scaling up the quantity should be possible.

Surely this project merits examination as a painless way of solving the dilemma and firmly establishing an AGR industry against the day when nuclear *power will become an inescap*able necessity in this country.

W. C. R. Whalley.
105, High St.,
Hungerford, Berks.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The Board meetings are mainly for the purpose of considering dividends and official indications are not available whether dividends concerned are interims or finals. The sub-division shown below is based mainly on last year's time-table.

TO-DAY

COMPANY MEETINGS—

Barr (A. G.), Glasgow, 11

BOARD MEETINGS—

Finals:

[illegible]

DIVIDEND & INTEREST PAYMENTS—

[illegible]

Weyburn Engineering 6pcPf 2.1pc
Wormalds Walker and Atkinson Ln 4½pc

TO-MORROW

COMPANY MEETINGS—

Claverhouse Investment Trust, 8, Crosby Square E.C., 12.30
Dobson Park Inds., Manchester, 12
Lonrho, Grosvenor House, Park Lane, W., 12
Status Discount, South Milford, 10.30
Winterbottom Trust, Salisbury House, London Wall, E.C., 11.30

BOARD MEETINGS—

Finals:
Allen Harvey and Ross
BTR
City and Commercial Invest. Trust
Crouch (Derek) Contractors
Davies and Metcalfe
Family Invest. Tst
First Scottish American Trust
National Westminster Bank
Rentokil
Royal Insurance
Unilever
Unilever NV

Interims:
Diploma Investments
Kamunting Tin Dredging
Southern Kinta Consolidated
Stocklake

DIVIDEND AND INTEREST PAYMENTS
Amax Lnc. 43¾ cts.
Arrow Db. 3¾pc (Series A)
Allied Breweries 2.4046p
American Brands Inc. 73 cts.
Anglo Argentine Tramways Dbs. 2 and 2¼pc
Ashdown Investment Trust Db 2½pc

[illegible]

Trafford 12pcBds. Red. 7/9/77 6pc
Trans Union Corp. 44 cts.
Treasury Ln. 14½pc 1994 £6.28. 8¼pc 1997 4⅛pc
UBM 7½pcPf. 2.625pc
Vickers Ln. 3pc
Wall Paper Manufacturers Db. 2pc
Wandsworth 12pcBds. Red. 7/9/77 6pc
Whitbread and Co. Dbs. 2¾ and 3½pc
Whites (Timothy) Ln. 3½pc
Wirral 12pcBds Red. 7/9/77 6pc
Witan Investment Dbs. 4 and 4pc (Cnv.)
Wokingham 12pcBds. Red. 7/9/77 6pc
Wyre Forest 12pcBds. Red. 7/9/77 6pc

WEDNESDAY, MARCH 2

COMPANY MEETINGS—

Fluidrive Engineering, Isleworth, 2.30

[illegible]

Bristol Evening Post 2.25p
British-American Tobacco Ln. 3½pc
Gillette 37½ cts.
Rexnord 36 cts

SUNDAY MARCH 6

DIVIDEND & INTEREST PAYMENTS—
Collins (G. and W.) Db. 4½pc
Imperial Metal Industries Ln. 3¼pc
Joseph (Leopold) Investment Ln. 4½pc
Merchants Trust Ln. 2pc
Olympia Db. 3¾pc
Redland 6½pcPf. 2.275pc
Sears Engineering Db. 4½pc
Sheffield Twist Drill and Steel Db. 3½pc
Waddington (John) Db. 5¼pc
Whitbread and Co. Db. 4½pc
Yorkshire Chemicals Db. 5pc

To-day's Events

GENERAL

Defence White Paper expected.

Talks resume in London between Britain and U.S. to renegotiate Bermuda Agreement on trans-atlantic air routes, due to expire on June 22.

EEC fish conservation measures in force from to-day (initially until April 30) are: (1) Total ban on herring fishing in North Sea; and (2) closure of area north and east of Scotland to industrial fishing for fish meal.

Civil Service union leaders meet Ministry of Defence officials in effort to prevent intensification of industrial action over manpower cuts.

International Monetary Fund mission due to arrive in Rome to discuss Italy's letter of intent for further standby credit.

Mr. Alan Williams, Minister of State, Industry, presents awards in English Industrial Estates Corporation competition for advance factory design, Gateshead.

CBI *Employment Policy Committee meets.*

PARLIAMENTARY BUSINESS

House of Commons: Debate on Welsh economy. Consideration of opposed private business.

OFFICIAL STATISTICS

Bricks and cement production (January).

COMPANY RESULTS

Commercial Union Assurance (full year). Sedgwick Forbes *Holdings (full year).* Yarrow (half-year).

COMPANY MEETINGS

See Week's Financial Diary on page 29.

Businessman's Diary

U.K. TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	Indian Electronic Components Exbn. (cl. Mar. 31)	28-30, Cork Street, W.1
Current	Boat and Leisure Life Show (cl. Mar. 6)	Nat. Exbn. Centre, B'ham.
To-day	International Men's and Boy's Wear Ex. (cl. Mar. 4)	Earls Court
Mar. 1—5	Scottish Engineering Exhibition	Glasgow
Mar. 1—5	National Stamp Exhibition	New Horticultural Hall
Mar. 2—26	Quality by Design Exhibition	Design Centre, S.W.1
Mar. 7—11	Scientific & Laboratory Equip. & Supplies Exbn.	Nat. Exbn. Centre, B'ham.
Mar. 8—11	Licensed Hotel Catering Exhibition	Metropole Centre, Brighton
Mar. 8—19	Chelsea Antiques Fair	Old Town Hall
Mar. 8—Apr. 2	Daily Mail Ideal Home Exhibition	Olympia
Mar. 14—17	National Carpet Fair	Blackpool
Mar. 14—17	Industrial Security Equipment Exhibition	U.S. Trade Center, W.1
Mar. 14—18	International Packaging Exhibition	Nat. Exbn. Centre, B'ham.
Mar. 15—17	Temperature Measurements and Control Exbn.	Wembley Conf Centre
Mar. 15—17	Int. Powder Technology & Bulk Solids Exbn.	Harrogate
Mar. 21—25	*Scottish Hotel, Catering and Licensed Trade Exbn.*	*Glasgow*
Mar. 22—24	Computermarket '77 Exhibition	Cunard Int Hotel, W.6
Mar. 22—24	International Tyre and Equipment Exhibition	Earls Court

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	International Boat Show (cl. Mar. 6)	Stockholm
Current	International Spring Fair (cl. Mar. 3)	Frankfurt
Mar. 1—6	Intl. Electrical, Electronic and Automation Exbn.	Bilbao
Mar. 4—8	International Footwear Fashion Exbn.	Bologna
Mar. 4—9	Hotels, Caterers, Bakers International Exbn.	Hamburg
Mar. 6—10	International Spring Fair	Utrecht
Mar. 6—13	*International Agricultural Show*	*Paris*
Mar. 7—13	Spring Clothing Fair	Belgrade
Mar. 8—12	International Footwear Fair	Elda
Mar. 9—13	International Spring Trade Fair	Vienna
Mar. 10—16	Intl. Construction Machinery Fair	Munich
Mar. 13—20	International Spring Fair	Leipzig
Mar. 15—24	British Industrial Exhibition	Caracas
Mar. 17—27	International Motor Show	Geneva
Mar. 18—Apr. 2	British Export Fair	Tokyo
Mar. 21—24	Petrochemical and Refining Exhibition	Houston

BUSINESS AND MANAGEMENT CONFERENCES

Mar. 2—3	Lamsac: Corporate Man. Dev. in Local Government	Manchester
Mar. 2—4	CENECA: Agriculture and Frozen Foods	Paris
Mar. 3	ICMA: Industrial Relations	Britannia Hotel, W.1
Mar. 3	Interbank Research Org.: Finance Houses	Moor House, E.C.2
Mar. 3	Forbes: Consumer Affairs—Threat or Opportunity	Royal Garden Hotel, W.8
Mar. 7—11	Kepner-Tregoe: Decision Making for Senior Man.	Heathrow Hotel
Mar. 8	Eng. Emp. Assoc.: The Law and the Supervisor	Bristol
Mar. 8—9	BACIE: Situation Report Conference	London Hilton, W.1
Mar. 8—9	MTC: Successful Office Supervision	Leicester
Mar. 9	Inst. Chartered Accountants: Exchange Control	Chtr. Accts. Hall, E.C.2
Mar. 9	Solihull Staff Ag.: Recent Employment Legislation	Leamington Spa
Mar. 9	Research Assoc.: Aperitifs in the U.K.	Connaught Rooms, W.C.2
Mar. 9—11	Urwick: Conditions of Contract	Slough
Mar. 10	Shirley Institute: Energy Savings in Textiles	Manchester
Mar. 10—11	Financial Times, La Repubblica, Alitalia, Investors Chronicle: European Business Forum	Rome
Mar. 13—16	Wales International: General Management	Cheltenham
Mar. 13—25	Bradford Univ.: Managing Technological Innovation	Heaton Mount, Bradford
Mar. 14	Dunchurch Ind. College: Project Management	Rugby
Mar. 14—18	Abraxas: Synetics-Innovative Skills	68, Churchway, N.W.1
Mar. 15	IBA: Financial Communication in Industry	London Hilton, W.1
Mar. 15	Sira: EEC Marketing Problem Solving	City Univ., E.C.1
Mar. 16	CBI: Economic Revival & Ind. Innovation	Royal Gdn. Htl., W.8
Mar. 16	BIM: Interpreting Accounts to the Non-Fin. Man.	Harrogate
Mar. 16	ESC: Occupational Pensions Schemes	Portman Hotel, W1
Mar. 16	Institute of Credit Management National Conf.	London Hilton, W.1
Mar. 16	Spring Research: Effective Planned Maintenance	Sheffield
Mar. 16	Henley: Consumers' Purchasing Power & Spending	Carlton Tower Hotel, S.W.1
Mar. 17	Inbucon: Transactional Analysis	Barrington House, E.C.2
Mar. 17	EBI: Re-thinking Corporate Finance	Royal Garden Htl., W.8
Mar. 17	CBI: Joint Venturing in Iran, 1977	CBI Council Chamber, S.W.1
Mar. 22	Lon. Pr. Serv.: Social Security and Pensions	Sudbury House, E.C.1
Mar. 22	ICE: Research & Corp. Planning in the Chem. Ind.	Birmingham
Mar. 22—23	Seatrade: Money and Ships '77	Grosvenor House Hotel, W.1
Mar. 22—24	Assoc Cert. Acc.: *European Taxation*	*Clifton-Ford Hotel, W.1*
Mar. 22—25	District Heating Assoc. National Conference	Scarborough

This week in Parliament

TO-DAY: Commons—Debate on the economy in Wales. Opposed Private Business (7 p.m.).

Select Committees — Expenditure, general sub-committe. Subject: Developments in the Civil Service since the Fulton report. Witness: Sir Harold Wilson (4.15 p.m., room 8). Expenditure—Education, Art and Home Office sub-committee. Subject: The attainments of the school-leaver. Witnesses: The School Broadcasting Council, Independent Broadcasting Authority (4.15 p.m., room 13).

TO-MORROW: Commons—Foreign Affairs debate.

Lords—Passenger Vehicles (experimental areas) Bill, committee; Sex Discrimination Act (Amendment) Order; Calf subsidies in U.K. Scheme Order; Public Lending Right Bill committee; Criminal Law Bill report.

WEDNESDAY: Commons—Coal Industry Bill, second reading. Remaining stages of Returning Officers (Scotland) Bill.

Lords—Research and Development since Rothschild Report; debate on Concorde.

Select Committees—Expenditure, Social Services and Employment sub-committee. Subject: The Job Creation Programme. Witnesses: TUC, Association of Principal Authorities (4.30 p.m., room 15). Nationalised Industries sub-committee B. Subject: British Steel Corporation. Witnesses: Ford and Leyland (10.45 a.m., room 8). Parliamentary Commssioner for Administration. Subject: Reports of Parliamentary Commissioner. Witness: Parliamentary Commissioner for Administration (5 p.m., room 7).

THURSDAY: Commons — Debate on Burden of Personal Taxation. Motion on EEC documents on export credits.

Lords—Public Lending Right Bill, third reading; Patents Bill committee; Social Security (Miscellaneous Provisions) Bill, second reading; Transport (Northern Ireland) Order; Rates Amendment (Northern Ireland) Order.

Select Committees—Race Relations and Immigration. Subject: Government Assumptions about potential immigration. Witnesses: Home Office (4 p.m., room 15).

FRIDAY: Commons—Private Members' Bills.

LEGAL NOTICES

No. 00399 of 1977

In the HIGH COURT OF JUSTICE Chancery Division Companies Court. In the Matter of A. F. MORGAN PAINTING & DECORATING CONTRACTORS (PENCE) LIMITED and in the Matter of The Companies Act, 1948.

NOTICE IS HEREBY GIVEN that a Petition for the Winding-Up of the above-named Company by the High Court of Justice was, on the 21st day of February 1977, presented to the said Court by the COMMISSIONERS OF CUSTOMS AND EXCISE of King's Beam House, 39-41, Mark Lane, London EC3R 7HE, and that the said Petition is directed to be heard before the Court sitting at the Royal Courts of Justice, Strand, London WC2A 2LL, on the 28th day of March 1977, and any creditor or contributory of the said Company desirous to support or oppose the making of an Order on the said Petition may appear at the time of hearing in person or by his Counsel for that purpose; and a copy of the Petition will be furnished by the undersigned to any creditor or contributory of the said Company requiring such copy on payment of the regulated charge for the same.

G. KRIKORIAN,
King's Beam House,
39-41, Mark Lane,
London EC3R 7HE.
Solicitor to the Petitioners.

NOTE.—Any person who intends to appear on the hearing of the said Petition must serve on, or send by post to, the above-named notice in writing of his intention so to do. The notice must state the name and address of the person, or, if a firm, the name and address of the firm, and must be signed by the person or firm, or his or their Solicitor (if any), and must be served, or, if posted, must be sent by post in sufficient time to reach the above-named not later than four o'clock in the afternoon of the 25th day of March, 1977.

No. 00395 of 1977

In the HIGH COURT OF JUSTICE Chancery Division Companies Court. In the Matter of [illegible] CLEANING CONTRACTORS LIMITED and in the Matter of the Companies Act, 1948.

NOTICE IS HEREBY GIVEN that a Petition for the Winding-Up of the above-named Company by the High Court of Justice was, on the 21st day of February 1977, presented to the said Court by the COMMISSIONERS OF CUSTOMS AND EXCISE of King's Beam House, 39-41, Mark Lane, London EC3R 7HE, and that the said Petition is directed to be heard before the Court sitting at the Royal Courts of Justice, Strand, London WC2A 2LL, on the 28th day of March 1977, and any creditor or contributory of the said Company desirous to support or oppose the making of an Order on the said Petition may appear at the time of hearing in person or by his Counsel for that purpose; and a copy of the Petition will be furnished by the undersigned to any creditor or contributory of the said Company requiring such copy on payment of the regulated charge for the same.

G. KRIKORIAN,
King's Beam House,
39-41, Mark Lane,
London EC3R 7HE.
Solicitor to the Petitioners.

NOTE.—Any person who intends to appear on the hearing of the said Petition must serve on, or send by post to, the above-named notice in writing of his intention so to do. The notice must state the name and address of the person, or, if a firm, the name and address of the firm, and must be signed by the person or firm, or his or their Solicitor (if any), and must be served, or, if posted, must be sent by post in sufficient time to reach the above-named not later than four o'clock in the afternoon of the 25th day of March 1977.

PREVENTION OF FRAUD (INVESTMENT) ACT, 1958

NOTICE IS HEREBY GIVEN that [illegible]

[illegible]

[...]PANY [NOT]ICES

[illegible]

[N]ATIONAL

[Tuition] for the Stock Exchange exams

HOME

[illegible]

Metropolitan College

OVERSEAS MARKETS

EUROBONDS

BY TONY HAWKINS

Dollar sector fears after 'quietest week for 18 months'

AT THE END of what one dealer described as the market's quietest week for 18 months, dollar sector prices had a look of vulnerability about them. So much so, in fact, that one increasingly encountered investment bankers and issue managers expressing the hope that new issue activity would continue to slacken thereby giving the market the time it so obviously needs to digest the considerable volume of loosely-placed paper.

In this situation, underwriters are becoming increasingly cautious and selective about the paper that they undertake to support, because they feel themselves already to be carrying sufficiently large inventories.

At this stage, there are a number of unfavourable background factors at work in the market. The most obvious of these is investor fears of renewed inflation, with which must be linked the still-gentle trend towards higher interest rates. In the first two months of the year too, there has been some evidence of a diversion of funds from the Eurobond market to domestic bond markets—most notably the U.K. gilt sector—and to the gold and commodity markets.

There must be not a few investors who see gold at U.S. $140 an ounce as a better hedge against inflation and currency depreciation than dollar-denominated paper. The Eurobond market has, in the past, attracted investment funds from precisely this kind of investor and therefore we ought not to be too surprised to discover that some of this money is reverting to what might be termed its traditional home.

To a considerable degree, the Eurobond market is, of course, a hostage to forces over which it has no influence at all. But it can operate on two variables — the volume of new issues and the terms at which these are offered. What we have been seeing in the dollar sector of late is some accommodation in respect of both variables. Terms have tended to become slightly more attractive to investors and, at the same time, the new issue calendar has thinned out somewhat. But all the present evidence suggests that there is still too much paper on offer and as one issue manager put it last week: "so long as the new issues come thick and fast, the market will remain weak."

In the past week, new offerings in the dollar sector totalled $140m., with three straight bond issues (including the two-tranche private placing for Broken Hill) and a floater for Allied Irish Banks.

The terms for one of these four issues — the $60m. two-tranche private placing for Broken Hill—look rather tight and hardly reflect any visible motivation on the part of the managers to tailor the offering to difficult market conditions. Accordingly, one assumes that the issue will be priced at a discount, especially the longer tranche of 12-year paper (average life 10½ years), which is being offered on an 8½ per cent. coupon. Compare this with Norpipe's 8½ per cent. coupon (larger issue, 1987 maturity and 9.6 years average life), or Tauernautobahn, also at 8½ per cent. but with a 10-year maturity and an 8½ year average life.

These new offerings can be compared also with the already listed BHP paper. The 9½ per cent. of 1981 with four years to run to maturity offers 8.28 per cent. while the 10 per cent. of 1990 is returning a shade over 9 per cent.

The Sparkassen issue seems destined to be well-received given the market's predilection for shorter term paper. It is being called a "direct placement" rather than a private placement in that it is being offered and that it will be listed on the London Stock Exchange. The 8½ per cent. (at par) over 5 years compares favourably with other new offerings such as the BHP or the Y.S. Line issue which is 7½ per cent. over 7 years (average life of 5.7 years) but expected to be priced at a slight discount.

In the floating rate market, Banque Louis Dreyfus was priced at par and opened on Friday at 99½-99¾ (in line with the selling group's 1½ per cent. commission) but with very little turnover being experienced. New to-day is a $30m. 7-year offering on a 6¼ per cent. minimum for Allied Irish Banks Ltd.

The spread is the usual one-quarter per cent. above Libor but the higher minimum than on other recent new floaters such as Williams and Glyn's which had a 6½ per cent. minimum would seem to be a justifiable reflection of the fact that this is a first-time borrower, not as well-known, and also an Irish credit rather than a larger, U.K. bank.

Due to be priced to-day is Norpipe which closed on Friday with the book being put at around the $80m. mark for a $50m. issue, suggesting a very successful outcome.

Tht Deutschemark market spent the greater part of February recovering from an oversupply situation in the two previous months. The DM calendar for foreign issues which worked out around DM800m. during February (with a DM200m. issue being postponed), will be somewhat higher this month, but some observers are increasingly reluctant to publicise this because they feel it has an adverse market impact. The market is forewarned of a heavy calendar, it reacts accordingly and, as a result, planned issues are withdrawn.

Due to be officially launched this week is the DM100m. seven-year offering on an expected 8½ per cent. coupon for the State-owned Mexican Financing agency, Nacional Financiera. Given the recent bullish news about Mexican oil reserves, this could become a popular issue.

Expected late in the month is a DM250m. offering for the Kingdom of Sweden, expected to come on tight terms as this is a prime market name. Expected this week, too, is a DM100m. issue managed by Commerzbank for the Brazilian state-owned Development Bank.

In the Swiss Franc market the World Bank is due to launch a large issue on terms which will be publicised this week while in the Euroguilder sector a Fls.75m. 7-year note issue for Norway managed by Algemene Bank Nederland is due to be announced to-day.

In New York, the $100m. Nippon Telegraph and Telephone 5-year tranche on a 7 per cent. coupon was priced at par, while the $50m. 10-year paper at 8½ per cent. was offered at 99½. Caisse Nationale des Autoroutes is next in the market with a Government-guaranteed $50m. 20-year offering.

In the foreign equity market the Murata Manufacturing issue of 4m. shares was priced with the shares offered at $4.02 each, putting a value of just over $16m. on the transaction. The shares were priced at Yen1,1[illegible] which was a discount of 5.16 per cent. from the closing Tokyo price.

CURRENT EUROBOND ISSUES

DOLLAR BONDS Borrower	Amount $m.	Maturity	Av. life years	Coupon %	Price	Lead manager	Offer yield %
Toyo Kanetsu	15	1982	5	7¾	100	Yamaichi Securities and S. G. Warburg	7.75
Saab-Scania	50	1989	8¼	8¾	99½	Skandinaviska Enskilda and UBS	8.40
Norpipe	50	1989	9.4	8¾	*	CSWW, First Boston and N. M. Rothschild and Sons	
Tauernautobahn	30	1987	8½	8¾	*	Kidder Peabody	
Y.S. Line (Cayman)	25	1984	5.7	7½	*	Nikko Securities and Baring Bros. and Co.	
Banque Louis-Dreyfus (FRN)	20	1983	—	6¼ min.	*	Credit Commercial de France	
Allied Irish Banks Ltd.	30	1984	—	6¼ min.	*	CSWW and Allied Irish Investment Bank Ltd.	
Sparkassen	25	1982	5	8½	100	Manufacturers Hanover Ltd. and Chase Manhattan Ltd.	8.25
Broken Hill Pty.	25	1985	8	8	*	Deutsche Bank and UBS (Securities)	
	30	1989	10½	8½	*		
D-MARKS							
Nacional Financiera	DM100m.	1984	—	8½	*	Dresdner Bank	
CAN. DOLLARS							
CNR	60	1987	8.6	8¾	99½	McLeod, Young Weir, Greenshields Inc. and Salomon Brothers	8.99

BONDTRADE INDEX

	Friday	1977 High	Low
Medium	102.41	103.09	102.[illegible]
Long	94.85	95.15	94.[illegible]
Convertible	108.09	110.47	107.[illegible]

EUROBOND TURNOVER

Nominal Value $m.

Week ended Feb. 25	U.S.$ Bonds	(previous)	Others	(previous)
Cedel	846.8	(683.0)	174.0	(208.0)
Euroclear	773.1	(857.0)	184.4	(263.2)

Indices

NEW YORK — DOW JONES

	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 18	Feb. 17	1976/77 High	1976/77 Low	Since compilation High	Since compilation Low
Industrials	952.43	952.50	955.22	930.81	940.24	946.72	1014.79 (21/9)	856.71 (2/1)	1051.70 (11/1/73)	41.22 (2/7/32)
Home Bonds	92.80	92.84	92.88	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Transport	221.61	221.86	222.89	223.66	224.92	225.21	237.52 (13/7)	175.69 (2/1)	279.88 (7/2/69)	13.23 (8/7/32)
Utilities	104.97	105.80	105.86	106.21	106.62	106.82	[illegible]	[illegible]	163.32 (20/4/69)	10.50 (28/4/42)
Trading vol. 000's	17,910	18,240	18,240	17,780	18,040	19,840				

* Basis of index changed from July 1.

	Feb. 22	Feb. 11	Jan. 21	Year ago (approx.)
Ind. div. yield %	4.46	4.45	4.27	3.74

STANDARDS AND POORS

	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 18	Feb. 17	1976/77 High	1976/77 Low	Since compilation High	Since compilation Low
†Industrials	110.89	110.72	111.53	111.09	112.29	112.19	120.89 (2/9)	101.64 (2/6)	134.64 (11/1/73)	3.52 (30/6/32)
†Composite	99.48	99.92	100.19	100.49	101.16	100.92	107.83 (2/1)	96.05 (2/1)	120.92 (11/1/73)	4.40 (1/6/32)

	Feb. 24	Feb. 16	Feb. 9	Year ago (approx.)
Ind. div. yield %	4.16	3.97	3.99	3.88
Ind. P/E Ratio	10.80	10.94	10.85	13.76
Long Govt. Bond yield	7.77	7.65	7.64	6.79

N.Y.S.E. ALL COMMON

Feb. 25	Feb. 24	Feb. 23	Feb. 22	1976/77 High	1976/77 Low
54.99	54.17	54.50	54.85	57.88 (31/12)	[illegible]

Rises and Falls

	Feb. 25		
Issues Traded	1,866	Up	548
Down	850	Same	468
New Highs	16	New Lows	22

MONTREAL

	Feb. 25	Feb. 24	Feb. 23	Feb. 22	1976/77 High	1976/77 Low
Industrial	188.07	178.14	178.66	180.12	207.45 ([illegible])	161.44 (30/11)
Combined	178.64	178.20	178.44	178.62	[illegible]	162.16 (30/11)
TORONTO Composite	1,018.1	1,007.8	1007.3	1008.4	1108.2 (15/6/76)	920.1 (30/11/76)
JOHANNESBURG Gold	178.9	177.0	172.0	171.2	226.7 (12/3)	115.5 (25/3)
Industrials	181.8	182.5	182.2	181.3	215.3 (21/3)	173.6 (30/11)

	Feb. 25	Pre-vious	1976/77 High	1976/77 Low
Australia (a)	426.25	424.20	[illegible]	[illegible]
Belgium (b)	95.81	97.03	115.18	[illegible]
Denmark (d)	104.39	104.44	117.70	[illegible]
France (e)	63.8	63.4	[illegible]	[illegible]
Germany (f)	717.2	723.2	821.7	[illegible]
Holland (g)	83.2	83.3	[illegible]	[illegible]
Hongkong (h)	425.42	430.34	465.33	354.52
Italy (ii)	69.06	69.01	81.27	64.85
Japan (m)	382.13	381.78	394.14	[illegible]
Singapore (n)	253.23	253.87	286.16	[illegible]
Spain (p)	92.74	97.81	103.78	[illegible]
Sweden (q)	400.89	392.87	476.96	[illegible]
Switz'l'd (r)	284.4	285.4	[illegible]	[illegible]

Indices and base dates (all base values 100 except NYSE All Common—50, Standards and Poors—10 and Toronto 300-1,000, the last-named based on 1975). † Excluding bonds. ‡ 400 Industrials. § 400 Industrials, 40 Utilities, 40 Finance and 20 Transport. (a) Sydney All Ord. (b) Belgian SE 31/12/63. (d) Copenhagen SE 1/1/73. (e) Paris Bourse 1961. (f) Commerzbank December, 1953. (g) Amsterdam Industrial 1970. (h) Hang Seng Bank 31/7/64. (ii) Milan 2/1/73. (m) Tokyo New SE 4/1/68. (n) Straits Times 1966. (p) Madrid SE 31/12/76. (q) Stockholm Industrial 1/1/58. (r) Swiss Bank Corp. 31/12/58. (u) Unavailable. (c) Closed.

JOHANNESBURG

MINES / INDUSTRIALS — February 25, Rand, + or − [illegible]

GERMANY ♦

Feb. 25	Prices Dm.	+ or −	Div. %	Yld. %
A.E.G.	85.7	+0.2	—	—
Allianz Versich.	382	−5	18	2.4
B.M.W.	225.5	−1.5	18	4.0
B.A.S.F.	154.5	−0.2	14	4.5
Bayer	133.5	−0.5	14	5.2
Bayer Hypo	271	−1	20	3.7
Bayer Vereinsbk.	269	−2	20	3.1
Commerzbank	186.6	−1.6	18	4.8
Contl. Gummi	65.9	−0.4	—	—
Daimler	337.5	−2	17	2.5
Degussa	231	−1	18	3.9
Demag	144	−2	16	5.5
Deutsche	266.6	−0.5	20	3.8
Dresdner Bank	217	−1.2	20	4.5
Dyckerhoff Zemt.	117	−3	6	2.6
Gutehoffnung	166.2	−0.8	14	4.2
Hapag Lloyd	107	−1	12	5.5
Harpener Dm100	157	......	9	5.8
Hoechst	135.4	−0.3	14	5.2
Hoesch	45.1	−0.2	—	—
Kali Salz (Dm50)	112	+0.5	7	3.1
Karstadt	333	−2.2	y20	3.0
Kaufhof	210	......	20	4.8
Klockner (Dm100)	91.5	−2	—	—
Klock Humbolt	141.5	−0.6	10	3.5
Krupp Pri (Dm100)	100	......	—	—
Kundenkredit Bk.	249	......	20	4.0
Linde	197	......	16	4.0
LowenbrauDm100	1,720	−30	20	1.2
Lufthansa	97	−0.5	4	2.1
M.A.N.	157	+0.5	14	4.5
M'esmann Dm 50	166	......	17	4.2
Metallgesellschaft	202.1	−0.9	10	—
Munch. Ruckvers	428	......	18	2.1
Neckermann	43.5	+0.3	—	—
Preussag Dm. 100	140.5	−0.5	7	5.0
Rhein West Elect.	157.5xd	......	17	5.1
Schering	269.5	−1.5	20	3.7
Siemens	246.1	−1.3	16	2.8
Sudzucker	240	+2	19	4.0
Thyssen	115.5	−0.3	14	6.1
VEBA Akt'schaft	122.8	−0.8	12	4.9
Verein & West Bk.	305	......	20	2.9

AUSTRALIA

Feb. 25	Aust. $	+ or −
ACMIL	†0.67	......
Acrow Australia	†0.60	......
Adelaide Brighton Cent50c	†1.16	......
Allied Mntg-Trdg. Indus. $1	†1.46	......
Ampol Exploration	‡1.05	−0.05
Ampol Petroleum	†0.58	......
Assoc. Minerals	‡1.50	......
Assoc. Pulp Paper $1	†0.90	−0.01
Assoc. Con. Industries	†1.43	+0.01
Aust. Foundation Invest.	†0.80	−0.02
A.N.I.	†1.19	......
Aust. Oil & Gas	†0.10	......
Blue Metal Ind.	†0.72	+0.01
Bougainville Copper	†1.20	−0.01
Broken Hill Proprietary	†6.70	+0.16
BH South	†1.25	+0.06
Carlton United Brewery	†1.66	+0.04
G. J. Coles	†1.32	......
CSR ($1)	†3.30	+0.08
Cons. Goldfield Aust.	‡1.80	......
Container ($1)	†1.40	......
Conzinc Riotinto	†3.10	+0.02
Costain Australia (25c)	†1.79	......
Dunlop Rubber ($1)	†0.99	+0.05
ESCOR	†0.68	......
Elder Smith ($1)	†2.10	......
E.Z. Industries	†2.68	+0.05
Gen. Property Trust	†1.22	......
Hamersley	†2.82	+0.04
Hill 50 Uranium NL	‡0.14	......
Hooker	†0.59	−0.01
I.C.I. Australia	†1.65	−0.05
I.A.C. Holdings	†0.56	−0.02
Inter-Copper	†0.29	......
Jennings Industries	†1.20	......
Jones (David)	†0.92	+0.02
Metal Exploration	†0.25	−0.02
MIM Holdings	†2.40	......
Myer Emporium	†1.80	−0.01
News	†1.60	......
Nicholas International	†0.80	−0.03
North Broken H'dings (50c)	†1.10	−0.02
Oakbridge	†1.05	......
Oil Search	†0.08	+0.01
Pioneer Concrete	†1.05	......
Reckitt & Colman	†3.30	......
H. C. Sleigh	†0.53	......
Southland Mining	†0.27	......
Stocks & Holdings	‡2.10	−0.20
Tooth ($1)	†1.44	......
Waltons	†0.64	−0.01
Western Mining (50 cents)	†1.45	......
Woolworths	†1.20	......

MILAN

Feb. 25	Price Lire	+ or −	Div. Lire
Alitalia Priv.	432	−17	—
ANIC	383.75	+0.75	—
Assicur. Fin.	2,310	+30	180
Bastogi	850	−7	—
Breda	1,650	−10	105
Burgo	7,580	−20	—
Cantoni	5,008	+20	—
CIGA	1,350	......	—
Cucirini	3,726	−65	235
Dalmine	597	−3	75
Erba	1,565	+7	—
Fiat	1,815	+22	100
Do. Priv.	1,815	+18	100
Finsider	170	+1	—
Generali	36,600	......	500
Invest B.	1,900	......	80
Italcementi	12,500	120	300
Italgas	660.5	−9.5	—
Italsider	235.5	+0.5	—
La Centrale	6,059	−11	400
Marelli Brecle	266	+1	—
Mediobanca	43,190	+210	1,200
Mondadori Priv.	904	−1	—
Montedison	319.5	+2.5	—
Olivetti Priv.	905	+9	—
Pirelli & C.	2,251	+70	110
Pirelli Spa	1,091	+14	—
RAS	59,900	+600	600
Rinascenti	52	+0.5	—
Rumianca	1,789	−1	—
S.A.F.F.A.	4,930	+10	200
S.T.E.T.	1,410	−12	180
Snia Viscosa	1,381	+8	—
Soc. Gen. Immob.	122.5xd	−1.25	—
Unidal	250	−5	—

OVERSEAS SHARE INFORMATION

NEW YORK

[illegible]

Investment premium based on $2.60 per £1—108⅛% (107¼%).

CANADA

[illegible]

PARIS

Feb. 25	Price Frs.	+ or −	Div. Frs.	Yld. %
AfriqueOccid'tle	390	......	19.8	5.1
Air Liquide	322.5	+0.5	16.5	5.1
Aquitaine	284.9	−0.1	22.5	8.0
Begoin	60	−0.05	—	—
B.S.N. Gervais	429.5	+3.5	37.8	8.8
Carrefour	1,390	+5	5.7	4.0
Chargeurs Reunis	164.5	−1.1	16.5	10.0
Cie Bancaire	286	+6	13	4.2
[illegible]				

AMSTERDAM

[illegible]

STOCKHOLM

[illegible]

OSLO

[illegible]

COPENHAGEN

[illegible]

TOKYO †

[illegible]

Source Nikko Securities, Tokyo

VIENNA

[illegible]

BRAZIL

[illegible]

Vol. Cr. 43.5m. Shares 18.2m. Source: Rio de Janeiro SE.

BRUSSELS/LUXEMBOURG

[illegible]

SPAIN ▼

[illegible]

SWITZERLAND ♦

[illegible]

CORAL INDEX Close 401-406

I.G. Index 01-351 2466 May Coffee 2720-2730

NOTES: Overseas prices exclude $ premium. [illegible]

AUTHORISED UNIT TRUSTS

INSURANCE, PROPERTY, BONDS

OFFSHORE AND OVERSEAS FUNDS

FINANCIAL TIMES STOCK INDICES

—	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 21	Feb. 15	A Year ago
...rnment Secs	65.31	65.40	65.43	66.09	64.92	65.15	63.46
... Interest	64.89	64.80	64.77	64.84	64.78	64.76	63.05
...trial Ordinary	401.7	402.5	402.1	397.7	369.0	393.0	405.2
Mines	125.2	123.7	119.1	116.1	112.9	107.8	183.9
Div. Yield	5.78	5.77	5.77	5.24	5.86	5.89	5.16
...ngs Y'ld% (full)(*)	18.59	18.45	18.44	18.64	19.02	18.81	14.83
...atio (net) (*†)	7.73	7.81	7.81	7.73	7.58	7.66	9.92
...gs marked	7,525	6,946	6,830	6,145	5,811	5,678	6,741
... turnover £m.	—	73.69	67.93	68.10	39.88	50.17	59.36
... bargains total	—	17,413	16,017	15,174	12,551	13,344	17,659

10 a.m. 400.0. 11 a.m. 401.2. Noon 400.6. 1 p.m. 399.3.
2 p.m. 398.7. 3 p.m. 398.5.
Latest Index 01-246 8026.
* Based on 52 per cent. corporation tax. Nil=7.67.
...sis 100 Govt. Secs. 15/10/26. Fixed Int. 1928. Ind Ord. 1/7/35. Gold 12/10/55. SE Activity July-Dec 1942.

HIGHS AND LOWS

	1976/7 High	1976/7 Low	Since Compilation High	Since Compilation Low
...ecs	66.45 (10/2/77)	55.88 (27/10)	127.4 (9/1/35)	49.18 (3/1/75)
...nt	65.90 (29/1/77)	55.57 (28/10)	150.4 (28/11/47)	50.53 (3/1/75)
...d	420.8 (4/5)	265.3 (27/10)	543.6 (19/5/72)	49.4 (26/6/40)
...ines	246.9 (2/3/76)	78.8 (25/8)	442.3 (22/5/76)	42.5 (26/10/71)

S.E ACTIVITY

—	Feb. 25	Feb. 24
Daily—		
Gilt-Edged	199.6	196.6
Industrials	261.2	233.5
Speculative	68.4	65.9
Totals	171.2	158.1
5-day Av'r'ge		
Gilt-Edged	197.6	194.9
Industrials	227.3	213.2
Speculative	59.6	54.0
Totals	151.4	142.5

FT—ACTUARIES INDICES

—	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 21	Feb. 18	Year ago
...al Groups	155.27	157.16	156.57	154.75	151.89	153.60	160.69
...es	181.08	183.01	182.58	180.56	177.67	179.40	175.22
...ld p.c.	5.87	5.81	5.82	5.88	5.98	5.92	5.55
...o (net)	9.22	9.33	9.30	9.21	9.05	9.13	10.05
...es	167.30	169.11	168.68	166.93	164.31	166.11	167.12
...ield p.c.	13.59	13.59	13.58	13.67	13.67	13.65	13.70

...APORE STOCKS

TEL AVIV

Company	Prices Feb. 27, 1977	Change on the week
Banking, Insurance and Finance		
Bank Leumi le-Israel	302	+ 2.5
IDB Bankholding	308	+ 2.5
Bank Hapoalim Br.	365	+ 3.0
Union Bk. of Israel Br.	363	+ 4.5
United Mizrahi Bank	221	+ 2.0
Hassneh Insurance Br.	413	+13.0
Wolfson Clore Mayer Br.	163	—
Genl. Mortgage Bk. Br.	278	− 7.5
"Tefahot" Israel Mort. Bank Br.	364	− 1.0
Land Development		
Africa Israel Inv. I.£10	555	+ 2.0
Israel Land Devel. Br.	163	− 5.0
Property and Building	266.5	− 1.0
Mehadrin	540	− 5.0
Public Utility		
Israel Electric Cpn.	331	+12.0
Investment Companies		
Bank Leumi Invest.	284.5	− 1.5
Discount Bank Inv. Br.	267	− 3.0
"CLAL" Israel Invest.	223	− 2.0
"CLAL" Industries	231	+ 8.0
Commercial and Industrial		
Alliance Tire & Rubber	840	− 5.0
Elco Br.	433	+38.5
Argaman Textile Br.	319	+37.0
"ATA" Textile "B"	204	− 7.0
Dubek Br.	509	+27.0
Elec. Wire & Cable Br.	140	+ 0.5
Solel Boneh 10pcPf. Br.	339	+ 5.0
Am. Israeli Paper Mills	241	− 4.0
Assis	232.5	+ 8.0
Tall Manuf. of Plywood Br.	199	+17.0
Elite	375	−10.0
Polycon	275	+10.0
Teva Reg.	1,168	+22.0
Fuel and Oil		
Delek	268	+20.0

Source: Bank Leumi le Israel, Tel Aviv.

...KONG

SHARE INFORMATION SERVICE

The following security has been added to the Share Information Services appearing in the Financial Times:—

Esmark Incorporated (Section: Americans).

NOTES

These particulars are given in compliance with the Regulations of the Council of the Stock Exchange for the purpose of giving information to the public with regard to Habit Precision Engineering Limited ("the Company"). The Directors collectively and individually accept full responsibility for the accuracy of the information given and confirm, having made all reasonable enquiries, that to the best of their knowledge and belief there are no other facts the omission of which would make any statement in these particulars misleading. These particulars have been prepared, as far as practicable, on the basis that the acquisitions described have been completed.

Application has been made to the Council of The Stock Exchange for the share capital of the Company, issued or now being issued as mentioned below, to be admitted to the Official List.

HABIT Precision Engineering Limited

(Incorporated in England under the Companies Act 1929—No. 269044)

Share Capital

Authorised			
£200,000	in 4,000,000 Ordinary Shares of 5p each	£ 77,400	Issued or to be issued and fully paid
		£ 69,225	To be issued nil paid and underwritten
		£146,625	

At the close of business on 4th February, 1977 companies in the Existing Group had outstanding hire purchase commitments amounting to £110. Ferguson Securities Limited has agreed to make a secured loan to the Company of £777,000 of which £277,000 will be repayable within six months and the balance in 1982.

Save as aforesaid and apart from inter-company liabilities within the Group, no company in the Enlarged Group had outstanding on that date any mortgages, charges, debentures or other loan capital or other borrowings or indebtedness in the nature of borrowing including bank overdrafts, liabilities under acceptances (other than normal trade bills) or acceptance credits, hire purchase commitments or any guarantees (other than guarantees given in the ordinary course of business) or other material contingent liabilities.

Rowe Rudd & Co. Limited

These particulars are issued in connection with

A placing of 202,177 Ordinary Shares of 5p each at 20p per share (cum rights)

Rowe Rudd & Co. Limited has agreed to underwrite 501,750 new Ordinary Shares of 5p each to be issued as part of a Rights Issue of 1,384,500 shares at 20p per share. Ferguson Securities Limited has agreed to subscribe in full for its entitlement to the balance of 882,750 new Ordinary Shares.

Directors
Graham Ferguson Lacey,
Executive Chairman,
38 Eaton Square, London, SW1W 9DH.

Robert Cecil McBride,
36 Bow Street, Lisburn, Co. Antrim,

Derek Charles Hathaway,
55 Richmond Hill Road, Edgbaston, Birmingham, B15 3SA.

Sir Stanley Raymond,
26 Cavendish House, King's Road, Brighton, Sussex.

Principal Bankers
Midland Bank Limited,
89 Buckingham Palace Road, London SW1W 0QL.

Brokers
Rowe Rudd & Co. Limited,
63 London Wall, London, EC2M 5UQ.

Solicitors
To the Company:
Eric Levine & Co.,
43 Berkeley Square, London, W1X 5DB.
To the Placing:
Clifford-Turner,
Blackfriars House, 19 New Bridge Street, London, EC4V 6BY.

Auditors of the Company and Reporting Accountants on the Habit Diamond Group
Neville Russell & Co.,
Chartered Accountants,
30 Artillery Lane, Bishopsgate, London, E1 7LT.

Secretaries and Registered Office
Chalfont Management Services Limited
45 St. James's Place, London SW1A 1PG.

Registrars and Transfer Office
Deloitte & Co.,
Lennox House, Beaufort Buildings, Spa Road,
Gloucester, GL1 1XD.

Definitions.—In these Particulars: "the Company" means Habit Precision Engineering Limited (formerly Gloucester & Cheltenham Investments Limited); "*Habit Diamond*" *means Habit Diamond Tooling Limited;* "*the Habit Diamond Group*" means Habit Diamond and its subsidiaries; "the Existing Group" means the Company and its subsidiaries other than the Habit Diamond Group; "the Enlarged Group" means *the Existing Group and the Habit Diamond Group;* "*PDP*" *means Precision* Diamond Products (Northern) Limited; "Ferguson" means Ferguson Securities Limited (formerly Suregain Securities Limited); "G & C Greyhounds" means Gloucester & Cheltenham Greyhounds (Longlevens) *Limited;* "*Clarinfield*" *means Clarinfield* Investments Limited and "Rowe Rudd" means Rowe Rudd & Co. Limited.

A The Existing Group—History and Business

The Company was incorporated in 1932 as The Gloucester & Cheltenham Greyhounds Limited. The Existing Group's principal asset has for many years been the *stadium at Longlevens, Gloucester, which has been operated as a greyhound stadium.*

In view of the fact that the greyhound racing business was not achieving a satisfactory level of profitability and that it was becoming increasingly difficult to maintain the required standard of racing at Longlevens, the business has been disposed of with effect from 23rd February, 1977.

The Company has granted a tenancy of the greyhound stadium for a period of two years *at an annual rental of £12,000 to* Clarinfield, *which will* be responsible for insurance, repairs and all outgoings. G. & C. Greyhounds, the subsidiary which previously operated the greyhound racing business, has transferred the whole of the *goodwill of that business to Clarinfield. The whole of the issued share capital of* Clarinfield is owned by Mr. J. N. Sutton who was a director of the Company from 11th June, 1976 to 23rd December, 1976.

The Company *intends to seek planning consent for residential development of* the stadium site and also intends to dispose of its freehold interest in the site. Mr. J. N. Sutton will be responsible for making the necessary planning application on *behalf of the Company since he will also be* concerned with making a concurrent application to use an alternative site for the greyhound racing business. Clarinfield will be obliged to vacate the stadium on the expiry of the tenancy agreement whereupon it will either receive an amount equal to 10 per cent. of the proceeds of sale of the stadium or, in the event that within three months after the expiry of the tenancy agreement the Company has not received planning consent to enable residential development to commence on the stadium site, the sum of £5,000. *Clarinfield will* also be entitled to remove the equipment for a nominal payment of £1 and has agreed to assume full responsibility for the continuing liabilities relating to the Greyhound *business and for all employees of that business.*

B The Habit Diamond Group—History and Business

The business was started in 1948 when the late Mr. A. A. Talmage and his wife acquired the issued share capital of Winchester Machine Tool Co. Limited, a small machine tool concern. The Habit Diamond Group was developed and remained *under Mr. Talmage's control until his death in 1968, when he was succeeded* by his brother-in-law, Sir Stanley Raymond, who with the assistance of employees expert in their particular fields has expanded the business to its present size. The trade *name of "Habit" which has been in use since 1951 is well known in the machine tool* and diamond tool industries.

The Habit Diamond Group now consists of Habit Diamond itself and 5 operating and 2 dormant *subsidiaries. Its business is essentially that of the manufacture of* high quality precision cutting tools for use in the cut-glass, ceramics and engineering industries. The majority of these tools incorporate industrial diamonds which are used as the cutting medium and these *diamonds are selected and purchased by trained* staff employed by the Habit Diamond Group. The diamonds are then used in the manufacture of various products such as abrasive wheel dressing tools, chisel tools, thread grinding tools, diamond tipped boring and turning tools, all of which are required for precision work by the engineering and related industries. Comprehensive ranges of wheels, drills and reamers, impregnated with diamonds and diamond powder, are manufactured for use in a wide variety of industries. The Habit Diamond Group also manufactures diamond lapping compounds and tools of a high standard used by the jewellery trade in surface decoration of precious and semi-precious metals. Other special tools are made for use, *inter alia*, in the manufacture of contact lenses, pipe stems and camera lens mounts. Although the tools manufactured by the Group are made in a wide range of standard specifications, "tailor-made" tools are also manufactured to meet the particular requirements of customers.

Habit Geometric Tooling Limited manufactures a wide range of mechanical fixtures and attachments for precision machine tools and special purpose fixtures for toolroom use, as well as specialist machines for the diamond tool industry itself. *Many of these attachments have developed as a result of problems on which customers* have sought the Group's advice for possible solutions. Micro-Tubes Limited produces precision drawn capillary tubing of *micro-thickness* used in the electronics industry.

The Habit Diamond Group is not *dependent to any material extent* on any one customer or supplier. It has a wide range of customers and for the 9 months ended 30th September, 1976 turnover was derived from approximately 1,800 customers. In that period approximately 25 per cent. of the products were sold to the *motor car and* related industries and approximately 10 per cent. to the cut-glass, ceramics and plastics industries. In the same period direct exports (which totalled approximately 10 per cent. of total sales) were spread amongst 22 countries with no particular country predominating.

C Premises

The Enlarged Group owns the following freehold properties:

a. The greyhound racing stadium at Longlevens, Gloucester, which is a site of approximately 14 acres including the stadium and all ancillary buildings.
Planning application is being prepared for early submission for the residential development of this site. The Directors intend to dispose of this site. R. Stewart Newiss & Co., commercial property valuers, have valued the site as at 21st January, 1977 on the basis of its existing use at £223,000. They considered it unlikely that the value of the site could be enhanced by any alternative user or by complete re-development for an alternative user.

b. Premises at Roxby Place, Fulham totalling approximately 18,000 sq. ft. which comprise the principal manufacturing factory of the Habit Diamond Group.
This modernised factory was acquired in 1967 and an extension was completed early in 1976. The premises include the main administration offices, a process laboratory, machine shop, diamond polishing department, tube drawing shop and maintenance shop.

c. Factory premises of approximately 13,000 sq. ft. on a one acre site in Doncaster. This factory built in 1972 houses the diamond wheel plant and specialist foundry in addition to laboratories, offices and press machine shops.

d. Factory premises totalling approximately 8,000 sq. ft. at Lurgan Avenue, Fulham, SW6. This factory is at present vacant following the transfer of plant and machinery to the factory at Roxby Place and has been placed on the market with a view to sale.
R. Stewart Newiss & Co. have valued the two occupied factories on a going concern basis as at 25th November, 1976 at £330,000 and the vacant factory on a vacant possession basis at £85,000.

D Directors, Management and Staff

Directors

Mr. Graham Ferguson Lacey, aged 28, is Executive Chairman of the Company. He became Chairman on *20th August, 1976. He has entered into an agreement* to serve the Company for five years as Executive Chairman. Mr. Lacey is also Chairman of William Reed and Sons Limited, a textile group whose shares are listed on The Stock Exchange.

Mr. Derek Charles Hathaway, aged 32, is a non-executive Director, having joined the Board on 1st January, 1977. He is Chairman of Dartmouth Investments Limited, *a public holding company whose shares are listed on The Stock Exchange and which* controls a number of engineering subsidiaries.

Mr. Robert Cecil McBride, aged 71, is also a non-executive Director and a Director of *William* Reed and Sons Limited.

Sir Stanley Raymond, aged 63, has been Chairman of the Habit Diamond Group since 1968. He has agreed to continue to serve the Habit Diamond Group on a part-time basis for a further twelve months.

Management and Staff

Mr. Alan Bolton, aged 42, is Managing Director of Habit Diamond, the principal operating company *of the Habit Diamond Group in London. He has been with Habit* Diamond for 23 years having been general manager since December 1975 prior to which he held the position of sales manager. He was appointed Managing Director on 25th *February, 1977 when he entered into a service agreement for five years.*

Mr. Peter Sutton, aged 46, is Managing Director of Habit Diamond's Doncaster subsidiary, PDP. He is a qualified metallurgist being an Associate of Ferrous Metallurgy *at the University of Sheffield and an Associate of the Institution of Metallurgists.* He has been with PDP for 18 years and became a Director on 5th April, 1964. He was appointed Managing Director on 25th February, 1977 when he entered into a service *agreement for five years. Although he is now responsible for the overall day-to-day* management of PDP he will also continue to supervise the technical side of its activities.

There are 9 other senior executives of the Habit Diamond Group, 7 of whom have served the Company for more than 10 years. The Habit Diamond Group has approximately 115 other employees.

The existing executive management of the Habit Diamond Group will continue to be responsible for its day-to-day operations. It is the intention that the Board of Directors of the Company will be primarily concerned with matters of general policy and financial control. *The Board intends to expand the existing business and activities* of the Enlarged Group into wider markets but without altering the nature of the service which the Habit Diamond Group provides to industry.

E Working Capital

After taking into account the cash resources of Habit Diamond, the normal banking facilities available to the members of the Enlarged Group, the *loan available* from Ferguson and the proceeds of the rights issue, the Directors are satisfied that the Enlarged Group has adequate working capital for its present requirements. The Habit Diamond Group's existing cash balances *will be available to fund an expansion of* its existing business.

F Profits, Prospects and Dividends

Although detailed expansion plans have not yet been formulated, it is intended *to re-equip the existing business of the Habit Diamond Group* and where necessary to purchase further fixed assets to increase productive capacity and to undertake a major export sales drive. The Directors expect that this expansion will have the *effect of increasing the profitability of the Enlarged Group in the longer term.* The Directors believe that there is scope for increasing export sales which for the nine months ended 30th September, 1976 amounted to only 10 per cent. of total turnover.

*The Directors of the Company forecast that, in the absence of unforeseen circum-*stances and on the basis of the assumptions set out below, the consolidated profits of the Enlarged Group, before taxation and extraordinary items of £8,000, for the year *ending 30th September, 1977 will be approximately £142,000.*

The principal assumptions on which this forecast is made and letters from Neville Russell & Co. and Rowe Rudd & Co. Limited reporting on the forecast are set out below.

On the basis of the forecast level of profits, the Directors would expect to pay dividends in respect of the year ending 30th September, 1977 totalling 1.3p (2.0p inclusive of the associated tax credit at the present rate.) In that event the Directors *would expect to pay an interim dividend of 0.5p* in August, 1977 and a final dividend of 0.8p in January, 1978. H. M. Treasury has consented to this level of payment in the context of the rights issue.

The following table illustrates how profits of £142,000 before taxation and extraordinary items would be appropriated, assuming taxation at a rate of 52 per cent. in respect of the year ending 30th September, 1977.

	£'000
Profit from operations	202
Other Income	35
Profit before taxation and interest	237
Interest (including notional interest)	95
Profit before taxation	142
Taxation	74
Profit before extraordinary items	68
Extraordinary items	8
Profit attributable to ordinary shareholders	*60*
Proposed dividends totalling 1.3p per share	38
Retained Profits	22

On this basis the net dividend would be covered 1.57 times by the profits after taxation and extraordinary items. The net dividend together with the current related tax credit would represent a gross equivalent yield of 10 per cent. at the rights issue price of 20p. At this price the price earnings ratio on the basis of profits before deducting extraordinary items would be 8.63 and on the basis of profits after deducting extraordinary items would be 9.78.

G Net Tangible Assets

Set out below are the following:

a. statement of the net tangible assets of the Existing Group (Column "A"); and
b. pro forma statement of the net tangible assets of the Enlarged Group (Column "B").

Column "A" is based on the accounts of the Company at 30th September, 1976 audited by Binder Hamlyn, Chartered Accountants.

Column "B" is based on the summarised balance sheet of the Habit Diamond Group at 30th September, 1976 set out below in the Accountants' Report and includes the net tangible assets of the Existing Group (Column "A") described above adjusted for:

(i) *the receipt of the proceeds of the rights issue,*
(ii) repayment of the short-term loan from Ferguson,
(iii) the acquisition of the 10 per cent minority interest in PDP, a subsidiary of Habit Diamond,
(iv) completion of the transactions relating to the cessation of greyhound racing but excluding potential transactions relating to disposal of the stadium,
(v) repayment of the short-term loan due to Habit Diamond, and
(vi) provision for expenses payable by the Company in connection with the placing, the rights issue, the application for a listing for the issued share capital of the Company and the transactions described herein.

	A Existing *Group* £	B Enlarged *Group* £
Fixed assets		
Freehold property	223,206	644,544
Plant fixtures and vehicles	1	38,447
	223,207	682,991
Quoted investments	8,000	45,157
Current Assets		
Stock and work in progress	6,130	348,316
Debtors	2,085	251,593
Cash	36,778	283,639
	44,993	883,548
Current liabilities		
Creditors	33,842	265,227
Taxation	3,546	144,699
	37,388	409,925
Net current assets	7,605	473,623
Five year loan from parent company	—	500,000
Deferred taxation	35,000	139,475
	35,000	639,475
Net tangible assets	£198,812	£562,296

The Habit Diamond Group

Accountants' Report

The following is a copy of the Report of the Reporting Accountants, Neville Russell & Co., Chartered Accountants:

The Directors,
Habit Precision Engineering Limited and
Rowe Rudd & Co. Limited.
Gentlemen

30 Artillery Lane,
Bishopsgate,
London E1 7L
25th February, 197

We have examined the audited accounts of Habit Diamond Tooling Limited ("Habit Diamond") and its subsidiaries, (collectively referred to as "the Habit Diamond Group") for the five years ended 31st December, 1975. We have also examined the audited interim accounts of the Habit Diamond Group for the nine months ended 30th September, 1976. The aforementioned accounts, which have been prepared under the historical cost convention, have been audited by Shipley Blackburn, Chartered Accountants, Roussel House, Bridge Road, Wembley Park, Middlesex, who have reported thereon, without qualification.

The summarised profit and loss accounts, balance sheets and statements of source and application of funds set out below ("the summaries") are based on the audited accounts (after making such adjustments as we considered appropriate).

Note 1 e states the basis adopted by the Habit Diamond Group in valuing its stock and work-in-progress and in particular that "due to the mixed nature of industrial diamonds when purchased in the traditional parcels, it has not been possible to determine the cost of each residual item held in stock. Cost has, therefore, been ascertained by applying a weighted average price to the main categories of diamond stocks." Whilst we know of no reason to disagree with the values so determined, we do not consider that we, as accountants, are able to express an opinion on the amount at which diamond stocks are stated because of their specialised nature. Subject thereto, in our opinion these summaries and the notes thereon, give under the historical cost convention a true and fair view of

(i) the profits of the Habit Diamond Group attributable to the shareholders of Habit Diamond for the periods stated,
(ii) the state of affairs of Habit Diamond and of the Habit Diamond Group at the dates stated,
(iii) the source and application of funds of the Habit Diamond Group for the periods stated.

2 Profit and Loss Accounts

	Note	1971 £	1972 £	1973 £	1974 £	1975 £	9 months ended 30th September 1976
Sales:	1b						
Home		521,916	589,130	665,249	776,311	824,589	652,
Export		84,900	68,100	107,600	83,100	80,300	50,
		606,816	657,230	772,849	859,411	904,889	702,
Cost of Sales including all expenses	2a	485,741	515,130	641,610	674,475	715,400	576,
		121,075	142,100	131,239	184,936	189,469	126
Other Income	2b	5,147	7,157	19,782	27,947	42,128	29
Profit before taxation		126,222	149,257	151,021	212,883	231,597	159
Taxation	3	48,823	67,798	85,212	117,843	116,379	88
Profit after taxation		77,399	81 459	65,809	95,040	115,218	74
Minority interests		2,724	2,282	2,340	2,394	2,618	2
Profit attributable to shareholders		74,675	79,177	63,469	92,646	112,600	72
Dividends		6,000	6,300	4,432	4,900	5,280	
		68,675	72,877	59,037	87,646	107,320	72
Surplus on revaluation of freehold properties		—	—	137,483	—	—	
Retained Profits		68,675	72,877	196,520	87,546	107,320	72

BALANCE SHEETS

Habit Diamond 30th September 1976 £		Note	The Habit Diamond Group 31st December 1971 £	1972 £	1973 £	1974 £	1975 £	30th September 1976 £
	CAPITAL EMPLOYED							
10,000	Share capital	4	10,000	10,000	10,000	10,000	10,000	10,
695,342	Reserves and retained profits		407,206	480,083	676,603	764,449	871,769	845,
£705,342			£417,206	£490,083	£686,603	£774,449	£881,769	£855
	EMPLOYMENT OF CAPITAL							
	Fixed Assets	5						
416,538	Freehold property		128,341	155,569	294,800	277,800	340,808	421,
24,597	Plant, fixtures and vehicles		45,798	41,445	41,303	46,305	39,436	36,
441,135			174,139	197,014	336,103	324,105	380,244	457,
91,000	Subsidiary companies	6						
17,394	Short term loan	7	—	—	21 908	18 394	17,394	17
38,436	Quoted Investment	8	16,676	46,628	52,676	53,436	40,256	42
	Current assets							
—	Tax reserve certificate		23,000	—	—	—	—	
122,249	Stock and work in progress	9	103,621	108,211	112,280	178,186	211,328	24
301,093	Debtors		137,919	187,246	214,504	253,783	250,920	26
349,447	Cash and bank balances		114,093	169,441	229,432	301,533	403,883	39
672,789			400,643	464,898	556,236	733,432	868,436	88
	Current liabilities							
119,148	Creditors		62,933	77,529	95,630	108,224	143,590	
—	Bank overdraft		—	—	781	8,162	—	
84,362	Taxation		92,147	103,929	135,668	178,475	180,584	14
—	Proposed dividend		6,000	6,300	10,732	4,900	5,350	
193,510			161,083	187,758	242,811	298,761	329,424	
469,278	Net current assets		239,558	277,140	313,425	434,671	539,012	
	Minority interest		13,167	15,199	17,680	19,436	21,874	
76,300	Deferred taxation	10	—	15,300	19,547	36,701	73,283	
299,591	Intra-group accounts	11						
375,891			13,167	30,099	37,227	56,137	95,157	
£705,342	Net assets		£417,206	£490,083	£686,603	£774,449	£881,769	£

HABIT Precision Engineering Limited—Continued

Statement of Source and Application of Funds

	1971 £	1972 £	1973 £	1974 £	1975 £	9 months ended 30th September 1976 £
urce of Funds						
ofit before taxation, less minority nterests after taxation	131,496	146,375	148,861	210,489	228,979	182,504
justments for items not involving the movement of funds:						
Minority interests in the retained profits of the year	2,474	2,023	2,481	1,796	2,418	2,280
Depreciation	14,745	13,201	13,765	15,605	13,094	9,297
tal Generated from Operations	149,717	162,868	164,907	227,890	244,491	184,150
nds from other Sources						
sposal of fixed assets	46,280	3,461	1,892	21,542	293	2,662
	195,997	166,329	166,800	249,432	244,784	186,812
plication of Funds						
rchase of fixed assets	48,478	42,187	17,064	23,145	69,928	91,499
rchase (Disposal) of quoted investments	4,649	28,802	8,948	749	(13,150)	1,871
nt term loan	—	—	21,968	(3,351)	(1,930)	—
xation paid	58,291	15,516	43,126	37,182	76,796	89,132
vidends paid	6,000	6,000	—	10,722	4,800	5,228
	117,419	91,865	94,144	90,210	139,554	187,738
rease (Decrease) in Working Capital	£69,578	£74,664	£72,456	£159,121	£105,000	£(20,976)
sing from movements in:						
ck and work-in-progress	12,430	4,590	4,869	67,826	35,722	36,338
btors	8,013	39,377	27,529	42,289	(4,875)	(1,412)
editors	(7,641)	(14,381)	(18,183)	(12,684)	(36,208)	(1,695)
ovement in net liquid funds:						
h and Bank balances	56,747	55,348	59,229	64,760	110,397	(48,221)
	£69,578	£74,664	£72,456	£159,121	£105,000	£(20,976)

Accounting Policies of the Habit Diamond Group

The principal accounting policies of the Habit Diamond Group which have been plied consistently in the foregoing summaries are as follows:

asis of consolidation

The foregoing summaries incorporate the accounts of Habit Diamond and of its bsidiaries. At 30th September, 1976 the following companies were wholly owned bsidiaries of Habit Diamond.

- Habit Diamond Distributors Limited
- Habit Diamond Drilling Limited
- Habit Geometric Tooling Limited
- * Winchester Machine Tool Co. Limited
- Sutton Diamond Tools Limited
- Micro-Tubes Limited

Habit Diamond also owns 90 per cent. of the issued share capital of Precision mond Products (Northern) Limited. Those subsidiaries marked with an asterisk not trade.

les

Sales represent goods and services invoiced in the normal course of trading to parties outside the Habit Diamond Group after deduction of returns and allow-s and value added tax.

preciation

No depreciation is provided in respect of freehold property. Depreciation is pro-d on the cost of all other fixed assets using the reducing balance method at a rate per cent. per annum. Depreciation is provided for the whole of the period in h an asset is acquired. Correspondingly no depreciation is provided in the period ich an asset is sold.

ferred taxation

Deferred taxation takes account of timing differences between the treatment of in items for accounts purposes and their treatment for taxation purposes using ability method. No provision has been made for taxation which would be payable rtain circumstances in the event of the sale of any of the revalued properties re than their respective original cost. The maximum amount of taxation which arise were the properties to be realised at their balance sheet values at the 30th mber, 1976 is approximately £34,000.

tock and Work in Progress

and work in progress is valued at the lower of cost and net realisable value. o the mixed nature of the industrial diamonds, when purchased in the traditional s, it has not been possible to determine the cost of each residual item held in Cost, therefore, has been ascertained by applying a weighted average price to ain categories of diamond stocks. The cost of other stocks and work in progress en determined on a first in first out basis and in the case of work in progress and d goods includes an appropriate proportion of production overheads. The sition of stock and work in progress at 30th September, 1976 is shown in note 9.

ixed assets

old property acquired prior to the 1st January, 1974 is stated at professional ions made at that date. All subsequent additions are stated at cost. Plant, s and vehicles are stated at cost less accumulated depreciation.

Research and development

penditure on research and development is charged to Revenue as incurred.

ofit and Loss Accounts

	1971 £	1972 £	1973 £	1974 £	1975 £	9 months ended 30th September, 1976 £
ites include:						
tion of fixed assets	£14,745	£13,661	£13,765	£16,605	£15,094	£9,297
Income						
rom quoted investments	721	1,140	2,508	3,318	5,234	2,942
eceived	4,426	6,017	17,274	24,629	36,894	27,031
	£5,147	£7,157	£19,782	£27,947	£42,128	£29,973

xation

poration tax has been provided for each period at the appropriate rates then ing.

roughout the period under review, Habit Diamond and its subsidiaries have n close companies within the meaning of the Income and Corporation Taxes Act 0. The Inland Revenue have given clearances in respect of the relevant islation concerning apportionment of income up to and including the accounting periods under review up to and including the period ended 31st ember, 1975. Accounts for the nine month period ended 30th September, 1976 e not yet been submitted to the Inland Revenue. The maximum dividend ch would be required to be paid by Habit Diamond to avoid apportionment in pect of the latter period is £19,000. Such dividend would be receivable by the uiring company.

are Capital

authorised, issued and fully paid share capital of Habit Diamond has remained hanged at 10,000 Ordinary Shares of £1 each.

ed Assets

ed Assets at 30th September, 1976 comprised:

	At Cost £	At Valuation £	Accumulated Depreciation £	Net Book Value £
roperty	146,338	275,000	—	421,338
machinery	105,976	—	87,297	18,767
ttings and equipment	30,012	—	21,697	8,325
cles	20,278	—	11,919	8,354
	£303,597	£275,000	£120,913	£458,784

sidiary Companies

	£
ry	38,345
nt	53,645
	£91,990

rt Term Loan

short term loan is the residue of a loan made for payment of an Estate Duty under Section 40 of the Finance Act 1940. Under the terms of the conditional nt for the acquisition of Habit Diamond, this loan is due to be repaid out of hase consideration.

ted Investments

ted investments are stated at cost throughout and their market value at 30th er, 1976 was £34,862.

ck and Work in Progress

0th September, 1976 stock and work in progress comprised:

	£	£
ials:		
al diamonds	69,224	
	53,076	122,300
ogress		53,657
ods		69,235
		£245,186

ferred Taxation

0th September, 1976 the balance of deferred taxation using the liability method e up as follows:

	£
s in the excess of the book value of relevant fixed assets over their written values for taxation purposes	62,229
adjustments arising from changes of stock values	41,780
	104,009
recoverable at a later date	445
	£104,454

ra-group accounts

	£
to subsidiaries	373,225
from subsidiaries	75,834
	£298,391

ital Commitments

0th September, 1976 the Habit Diamond Group had contracted for capital re totalling £5,000.

ounts

counts for submission to members have been prepared subsequent to those ar ended 31st December, 1975. Accounts for the nine months ended 30th September, 1976 have been prepared and audited for the purpose of this Report.

Yours faithfully,
NEVILLE RUSSELL & CO.,
Chartered Accountants.

Profit Forecast

1 Forecast and Assumptions

The profit forecast has been prepared on the basis that (a) the acquisition of Habit Diamond and the 10 per cent. minority interest in PDP and (b) the cessation of greyhound racing had taken place on 1st October, 1976 and notional interest (less notional corporation tax relief) has been charged accordingly.

The principal assumptions made by the Directors of the Company in preparing the profit forecast are that:

1. There will be no significant changes in the present management or accounting policies.
2. The turnover for the twelve months to 30th September, 1977 will be on the basis that sales will continue in line with the levels and trends experienced in the three months to 31st December, 1976.
3. Investment in new plant and facilities will not have a significant effect on turnover or profitability before 30th September, 1977.
4. Increases in selling prices will reflect any increase in the price of raw materials and will be within the terms of the present price code.
5. For the purposes of calculating the price of diamonds the £ will not fall below $1.65 to the £. In other respects the cost of diamonds will remain stable, and import regulations will continue as at present.
6. Trading results will not be affected by industrial disputes in the factories of the Habit Diamond Group or in those of its principal suppliers or customers.
7. The current pay code will be adhered to.
8. The proposed transactions relating to the cessation of greyhound racing are duly concluded on the terms stated.
9. The stadium is not sold and developed before 30th September, 1977 and no significant revenue costs are incurred in connection therewith.
10. Interest rates will not change materially from those currently applicable.
11. The bases and rates of taxation, both direct and indirect, will not change materially from those currently applicable.

2 Letters

The following are copies of letters from Neville Russell & Co. and Rowe Rudd & Co. Limited concerning the profit forecast:

30 Artillery Lane,
Bishopsgate,
London E1 7LT.
25th February, 1977

The Directors,
Habit Precision Engineering Limited,
45 St. James's Place,
London SW1A 1PG.

Dear Sirs,

We have reviewed the accounting bases and calculations for the profit forecast for the year ending 30th September, 1977 of Habit Precision Engineering Limited ("the Company") and its subsidiaries (including Habit Diamond Tooling Limited and its subsidiaries) for which the Directors of the Company are solely responsible. In our opinion, so far as the accounting bases and calculations are concerned, the forecast set out in the Particulars dated 25th February, 1977 has been properly compiled on the footing of the assumptions made by the Directors of the Company, and is presented on a basis consistent with the accounting policies normally adopted by the Company and its subsidiaries.

Yours faithfully,
NEVILLE RUSSELL & CO.,
Chartered Accountants.

Rowe Rudd & Co. Limited,
63 London Wall,
London EC2M 5UQ.
25th February, 1977.

The Directors,
Habit Precision Engineering Limited,
45 St. James's Place,
London SW1A 1PG.

Dear Sirs,

We refer to the forecast of the profits of Habit Precision Engineering Limited and its subsidiaries for the year ending 30th September, 1977 which is contained in the Particulars dated 25th February, 1977.

We have examined and discussed with you the assumptions on which the forecast is based and having regard to the assumptions and to the accounting bases and calculations reviewed by Neville Russell & Co., we consider that the forecast (for which you are solely responsible) has been made by you after due and careful consideration.

Yours faithfully,
R. A. W. RUDD,
Chairman.

Statutory and General Information

1 The Company

The Company was incorporated in England as a public company on 4th October, 1932 under the name of The Gloucester & Cheltenham Greyhounds Limited. On 8th September, 1976 it changed its name to Gloucester & Cheltenham Investments Limited and on 24th February, 1977 changed its name to its present name.

On 10th April, 1975 the Company allotted 23,000 Ordinary Shares of 5p each, credited as fully paid, to Mr. G. Robinson, the Chairman of Retroflame Group Limited, as consideration for the transfer by him to the Company's wholly-owned subsidiary, Clarinfield Investments Limited, of 21,000 Ordinary Shares of £1 each in Retroflame Group Limited.

Immediately prior to 23rd February, 1977 the authorised share capital of the Company was £60,000 divided into 1,200,000 Ordinary Shares of 5p each of which 932,800 such Shares had been issued fully paid. On 23rd February, 1977, the Company increased the authorised share capital to £200,000 by the creation of an additional 2,800,000 Ordinary Shares of 5p each.

2 Subsidiaries

The Company has the following subsidiaries (all private companies incorporated in England):

Name	Date of Incorporation	Paid-up Share Capital £	Business
The Existing Group			
Gloucester & Cheltenham Greyhounds (Longlevens) Limited	28.11.1972	200	dormant
The Gloucester and Cheltenham Sports Club Limited	16.6.1938	5	dormant
Gloucester & Cheltenham Properties Limited	22.3.1973	2	dormant
The Habit Diamond Group			
Habit Diamond Tooling Limited	22.3.1948	10,000	Diamond tools
Habit Diamond Distributors Limited	9.4.1963	100	Diamond distributors
Habit Diamond Drilling Limited	21.10.1946	1,000	dormant
Habit Geometric Tooling Limited	7.6.1963	2	Diamond tool machines and equipment
Winchester Machine Tool Co. Limited	25.3.1945	10,000	dormant
Sutton Diamond Tools Limited	5.11.1964	2	Investment holding
Precision Diamond Products (Northern) Limited (90% owned)	14.6.1944	5,000	Diamond tools, dressing wheels
Micro-Tubes Limited	29.1.1952	2,400	Fine bore tubing

With the exception of PDP, all the subsidiaries are, directly or indirectly, wholly-owned by the Company.

On 9th February, 1976 G & C Greyhounds issued and allotted 100 Ordinary Shares of £1 each, credited as fully paid, to the Company as consideration for the transfer by the Company of its business to G & C Greyhounds.

On 23rd December, 1976 Habit Diamond increased its share capital by £10,000 to £20,000 and allotted by way of capitalisation of reserves 10,000 new Ordinary Shares of £1 each, credited as fully paid: on the same date each of its existing Ordinary Shares was converted into one 6 per cent. non-cumulative non-participating Preference Share of £1.

3 Issue Arrangements

Under Contract No. 5 below, subject (inter alia) to the Council of The Stock Exchange granting not later than 4th March, 1977 a listing for the share capital of the Company, issued and now being issued as mentioned herein, and to the acquisition described herein being duly completed: (i) Rowe Rudd has agreed to place 282,177 Ordinary Shares of 5p each in the Company at a price of 20p per share (cum rights); (ii) Ferguson has agreed to subscribe in full for the 582,750 Ordinary Shares of 5p each which will be offered to it for subscription pursuant to the proposed rights issue of 1,384,500 Ordinary Shares of 5p each at a price of 20p per share; and (iii) Rowe Rudd has agreed to underwrite the balance of 801,750 Ordinary Shares of 5p each to be issued pursuant to the rights issue at the subscription price. Under this Contract the Company will pay to Rowe Rudd a fee of £10,000 and a commission of 2½ per cent. of the subscription price on the 801,750 Ordinary Shares being underwritten by Rowe Rudd in connection with the rights issue out of which Rowe Rudd will pay sub-underwriting commission of 1½ per cent. The Company will pay all other expenses of or incidental to the placing, the rights issue, the application for a listing for the issued share capital and the transactions described herein except that Ferguson will pay to Rowe Rudd a commission of 1½ per cent. of the placing price on the 282,177 Ordinary Shares being placed. The expenses payable by the Company, including fees payable to Rowe Rudd, are estimated to amount to £91,000 exclusive of value added tax.

4 Acquisition of Habit Diamond

Under Contract No. 2 below, subject (inter alia) to the Council of The Stock Exchange granting a listing not later than 2nd March, 1977 for the share capital of the Company issued and now being issued as mentioned herein, the Company has agreed to acquire the whole of the issued share capital of Habit Diamond with effect from 1st October, 1976. The consideration for this acquisition is £580,000 in cash and the issue, credited as fully paid, of 500,000 new Ordinary Shares of 5p each in the Company which will not rank for the rights issue but will rank for all dividends hereafter declared or paid and in all other respects pari passu with the existing Ordinary Shares in the Company. The names and addresses of the vendors of Habit Diamond, the numbers of Ordinary Shares in Habit Diamond held by, and the consideration payable to, each of them are as follows:

Vendor	Address	Number of shares in Habit Diamond	Cash Consideration £	Number of shares issued by way of consideration
Sir Stanley Raymond	25 Cavendish House, King's Road, Brighton, Sussex	2,000	150,000	150,000
Lady Enid Raymond	25 Cavendish House, King's Road, Brighton, Sussex	1,000	70,000	100,000
Mrs. Marjorie Talmage	1 Oak Lodge, 47/49 Palmeira Avenue, Hove, Sussex	7,000	360,000	250,000

The vendors of Habit Diamond have given certain warranties and taxation indemnities relating to the Habit Diamond Group. Liability under these warranties and indemnities is limited both to £100,000 in aggregate amount (save in respect of indemnities relating to estate duty, capital transfer tax and certain other taxation matters where the liability, aggregated with all other liabilities, is limited to £500,000) and to claims made within two years in the case of warranties and six years in the case of taxation indemnities from completion. Insurance cover in an amount of £300,000 has been obtained by the Company in case the amount of £100,000 referred to above in respect of the said warranties and indemnities should prove insufficient.

In order to provide the cash portion of the consideration for the acquisition of Habit Diamond Ferguson has agreed under Contract No. 6 below to lend the Company £300,000 for a period of five years at an annual rate of interest equivalent to 1 per cent. above the cost to Ferguson of that part of the loan borrowed by Ferguson but not exceeding 4½ per cent. above the Midland Bank Limited base rate secured by a floating charge over the assets and undertaking of the Company and a first fixed charge over the share capital of Habit Diamond. The balance will be provided out of the proceeds of a rights issue of 1,384,500 new Ordinary Shares of 5p each at a price of 20p per Share to Ordinary Shareholders on the register at the close of business on 4th February, 1977, in the proportion of 3 new Ordinary Shares for every 2 Ordinary Shares then held, and from the existing resources of the Company.

In order that the whole of the cash consideration can be paid to the vendors of Habit Diamond on 2nd March, 1977 Ferguson has agreed to lend to the Company £277,000, at the same rate of interest as the five year loan mentioned above, as a bridging loan repayable in full within six months and on the basis that the proceeds of the rights issue, after deduction of expenses, will be immediately applied for this purpose.

Under Contract No. 4 below, subject (inter alia) to completion of the acquisition of the whole of the issued share capital of Habit Diamond, the Company has agreed to acquire from Mr. Peter Sutton 500 Ordinary Shares of £1 each in PDP (being the 10 per cent. of the issued share capital of PDP not already held by Habit Diamond) in consideration of the issue, credited as fully paid, of 125,000 Ordinary Shares of 5p each in the Company.

5 Shareholdings

Immediately following this Placing, the acquisition of Habit Diamond and the proposed rights issue the holdings of the Directors as they will appear in the Register maintained under the provisions of the Companies Act 1967 (all of which holdings will be beneficial) will be as follows:

Director	Ordinary Shares of 5p
G. Ferguson Lacey*	1,471,250*
D. C. Rathavar	10,000
R. C. McBride*	1,471,250*
Sir S. Raymond	250,000

*Mr. G. Ferguson Lacey and Mr. R. C. McBride are together interested in the entire issued share capital of Ferguson which holds all the 1,471,250 Ordinary Shares (approximately 50.2 per cent. of the enlarged issued capital) shown against both their names in the table above.

The Directors are not aware of any other shareholdings which will represent 10 per cent. or more of the enlarged issued share capital of the Company.

6 Taxation

The Directors have been advised by Neville Russell & Co that immediately following the proposed transactions the Company will be a close company as defined in the Income and Corporation Taxes Act 1970.

7 Articles of Association

The Articles of Association of the Company include provisions to the following effect:

a. Subject to the provisions of the Companies Act 1948 all or any of the rights or privileges for the time being attached to any share or class of shares may be varied or abrogated with the consent in writing of the holders of not less than three-fourths of the issued shares of the class or with the sanction of an Extraordinary Resolution passed at a separate Meeting of the holders of the shares of the class. To every such separate Meeting the provisions of the Articles relating to General Meetings shall *mutatis mutandis* apply, but so that the necessary quorum shall be persons holding or representing by proxy one-third of the capital paid up on the issued shares of the class.
b. Subject to any special rights, privileges or restrictions as to voting for the time being attached to any special class of shares, at any General Meeting on a show of hands every member who (being an individual) is present in person or (being a corporation) is present by proxy or by a representative duly authorised under Section 139 of the Companies Act, 1948, not being himself a member, shall have one vote, and in case of a poll every member present in person or by proxy shall have one vote for each share of any class of which he is the holder.
c. A Director shall not be required to hold any qualification shares.
d. The Board may exercise all the powers of the Company to borrow money and to mortgage or charge its undertaking, property and uncalled capital or any part thereof and to issue debentures and other securities. The Board shall secure that the aggregate amount for the time being outstanding in respect of moneys borrowed by the Company and or any of its subsidiary companies (exclusive of inter-group borrowings) shall not at any time, without the previous sanction of the Company in General Meeting, exceed an amount equal to five times the aggregate of the nominal amount of the share capital of the Company for the time being issued and paid up and the total of the amounts for the time being standing to the credit of the capital and revenue reserves of the Company and its subsidiaries.
e. The remuneration of the Directors shall from time to time be determined by the Company in General Meeting and any such remuneration shall (unless otherwise directed by the resolution by which it is voted) be divided amongst the Directors as they shall agree, or, failing agreement, equally. The Directors shall also be entitled to be repaid all travelling and hotel expenses incurred by them respectively in or about the performance of their duties as Directors, including their expenses of travelling to and from Board Meetings, Committee Meetings or General Meetings, or otherwise incurred while engaged on the business of the Company. If by arrangement with the other Directors any Director shall perform or render any special duties or services outside his ordinary duties as a Director, the Board may pay him special remuneration, in addition to any fees or ordinary remuneration, and such special remuneration may be by way of salary, commission, participation in profits or otherwise as may be arranged, and shall be charged as part of the Company's ordinary working expenses.
f. The Board has power to pay pensions or other retirement benefits to, *inter alios*, Directors and ex-Directors of the Company and its subsidiaries holding or who have held any salaried employment or office and their wives, widows, families and dependants.
g. A Director may be appointed by the Board to any other office or place of profit under the Company (except that of Auditor) for such period, on such terms and at such remuneration as the Board may determine.
h. No Director or intending Director shall be disqualified by his office from contracting with the Company nor shall any such contract or any contract or arrangement entered into by or on behalf of the Company in which any Director is in any way directly or indirectly interested be liable to be avoided nor shall any Director so contracting or being so interested be liable to account to the Company for any profit realised thereby, save that the nature of his interest must be declared by the Director at the meeting of the Board when the contract or arrangement is first taken into consideration or at the first meeting of the Board held after the Director became so interested.
i. Save as provided below, a Director shall not vote in respect of any contract or arrangement or any other proposal whatsoever in which he has any material interest otherwise than by virtue of his interests in shares or debentures or other securities of or otherwise in or through the Company. A Director shall not be counted in the quorum at a meeting in relation to any resolution on which he is debarred from voting.
j. A Director shall (in the absence of some other material interest than is indicated below) be entitled to vote (and be counted in the quorum) in respect of any resolution concerning any of the following matters, namely:
   (i) the giving of any security or indemnity to him in respect of money lent or obligations incurred by him at the request of or for the benefit of the Company or any of its subsidiaries;
   (ii) the giving of any security or indemnity to a third party in respect of a debt or obligation of the Company or any of its subsidiaries for which he himself has assumed responsibility in whole or in part under a guarantee or indemnity or by the giving of security;
   (iii) any proposal concerning an offer of shares or debentures or other securities of or by the Company or any of its subsidiaries for subscription or purchase in which offer he is or is to be interested as a participant in the underwriting or sub-underwriting thereof;
   (iv) any proposal concerning any other company in which he is interested directly or indirectly and whether as an officer or shareholder or otherwise howsoever, *provided that he is not the holder of* or beneficially interested in 1 per cent. or more of the issued shares of any class of the equity share capital of such company (or of any third company through which the interest is derived) or of the voting rights available to members of the relevant company (any such interest being deemed to be a material interest in all the circumstances);
   (v) any proposal concerning the adoption, modification or operation of a superannuation fund or retirement benefits scheme under which he may benefit and which has been approved by or is subject to and conditional upon approval by the Board of Inland Revenue for taxation purposes.
k. Where proposals are under consideration concerning the appointment (including fixing or varying the terms of appointment) of two or more Directors to offices or employments with the Company or any company in which the Company is interested, such proposals may be divided and considered in relation to each Director separately and in such case each of the Directors concerned (if not debarred from voting under paragraph j (iv) above) shall be entitled to vote (and be counted in the quorum) in respect of each resolution except that concerning his own appointment.
l. If any question shall arise at any meeting as to the materiality of a Director's interest or as to the entitlement of *any Director to vote and such question is not resolved by his voluntarily agreeing to* abstain from voting, such question shall be referred to the Chairman of the meeting and his ruling in relation to any other Director shall be final and conclusive except in a case where the nature or extent of the interest of the Director concerned have not been fairly disclosed.
m. The Company may by Ordinary Resolution suspend or relax the provisions summarised under paragraphs g, h, i, j, k, and l above to any extent or ratify any transaction not duly authorised by reason of a contravention of such provisions.
n. No Director shall vacate or be required to vacate his office as a Director on or by reason of his attaining or having attained the age of seventy, and any Director retiring or liable to retire under the provisions of the Articles and any person proposed to be appointed a Director shall be capable of being re-appointed or appointed, as the case may be, as a Director notwithstanding that at the time of such re-appointment or appointment he has attained the age of seventy and no special notice need be given of any resolution for the re-appointment or appointment or approving the appointment as a Director of a person who shall have attained the age of seventy, and it shall not be necessary to give to the members notice of the age of any Director or person proposed to be re-appointed or appointed as such.

8 Service Agreements

The following are particulars of the Service Agreements between the Company and its subsidiaries and the Directors and senior executives of the Enlarged Group:

Name	Employing Company	Date of Agreement	Expiry Date	Nature of Appointment	Fixed annual remuneration	Variable annual remuneration
G. Ferguson Lacey	the Company	25th February, 1977	24th February, 1982	Executive Chairman of the Company	£5,000	—
Sir Stanley Raymond	Habit Diamond	25th February, 1977	24th February, 1978	Non-executive Chairman of Habit Diamond	£3,750	—
A. Bolton	the Company	25th February, 1977	24th February, 1982	Managing Director of Habit Diamond	£2,500	1% of certain sales of Habit Diamond*
P. Sutton	the Company	25th February, 1977	24th February, 1982	Managing Director of PDP	£3,500	—

* This commission amounted to £2,521 for the period of nine months ended 30th September, 1976, representing 1% of sales amounting to £252,100 out of the total sales of Habit Diamond of £676,190.

9 Material Contracts

The following Contracts (not being contracts in the ordinary course of business) have been entered into since 25th February, 1975 and are or may be material:

1. dated 9th February, 1976 between the Company (i) and G & C Greyhounds (ii), being the Agreement for the assignment to G & C Greyhounds of the business and undertaking formerly carried on by the Company;
2. dated 23rd December, 1976 between Sir Stanley Raymond, Lady Enid Raymond and Mrs. Marjorie Talmage, (i) the Company (ii) and G. Ferguson Lacey and R. C. McBride (iii), being the above-mentioned conditional Agreement for the acquisition by the Company of the issued share capital of Habit Diamond;
3. dated 23rd December, 1976 between the Company (i) G & C Greyhounds (ii) and John Nelson Sutton (iii), being the Agreement for the sale of the whole of the issued share capital of Clarinfield to Mr. J. N. Sutton for £100 and for the grant of a tenancy agreement of the stadium to Clarinfield referred to above;
4. dated 23rd December, 1976 between P. Sutton (i) and the Company (ii), being the above-mentioned conditional Agreement for the acquisition by the Company of 500 Ordinary Shares of £1 each in PDP;
5. dated 25th February, *1977 between the Company (i), the Directors of the Company* (ii), Ferguson (iii) and Rowe Rudd (iv), being the Contract mentioned in Section 3 above;
6. dated 25th February, 1977 between Ferguson (i) and the Company (ii), being the above-mentioned Agreement for a five year loan of £300,000 and for a short-term loan of £277,000;
7. dated 25th February, 1977 between the Company and Clarinfield being the tenancy agreement mentioned above;

8-11 dated 25th February, 1977 being the four service agreements mentioned above.

10 Disclosures of Interest

Mr. G. Ferguson Lacey and Mr. R. C. McBride are both Directors of Ferguson and each holds one half of the issued share capital of Ferguson, which was incorporated on 16th November, 1974 as a private company and is registered in Northern Ireland. A wholly-owned subsidiary of Ferguson, Birmingham & Midland Counties Trust Limited, acquired the whole of the Company's interest in, and loans to, Retroflame Group Limited at their cost to the Company, namely £77,780, pursuant to an offer by Ferguson dated 3rd October, 1975 which was approved by *the Shareholders of the* Company on 9th January, 1976.

11 Miscellaneous

a. The aggregate emoluments of the Directors of the Company for the year ended 30th September, 1976 amounted to £7,879 and under the arrangements now proposed such emoluments would amount on an annual basis to £16,750.
b. No company in the Enlarged Group is engaged in any litigation or arbitration of material importance and no litigation or claim of material importance is known to the Directors to be pending or threatened against any such company.
c. Since 25th February, 1975 and save as disclosed herein: (i) no capital of any company in the Enlarged Group has been issued, or is proposed to be issued, fully or partly paid, either for cash or for a consideration other than cash; (ii) no commissions, discounts, brokerages or other special terms have been granted in connection with the issue or sale of any share or loan capital of any such company: and (iii) no Director has or has had any interest in any assets which, within two years before the *date hereof, have been or which are proposed to be, acquired, disposed of* by or leased to any such company.
d. Save as disclosed herein, no Director of the Company is materially interested in any contract or arrangement subsisting at the date hereof which is significant in relation to the business of the Enlarged Group taken as a whole.
e. No capital of any company in the Enlarged Group is under option or is agreed conditionally or unconditionally to be put under option.
f. Apart from the shares to be issued as referred to herein, no material issue of shares (other than to shareholders pro rata to existing holdings) will be made within one year from the date of this document without the prior approval of the Company in general meeting.
g. No issue will be made which would effectively alter the control of the Company or the nature of its business without the prior approval of the Company in general meeting.
h. No part of the consideration in respect of the shares to which this Placing relates will be received by the Company and no amount is required to be so received in respect of any of the matters mentioned in paragraph 4 of the Fourth Schedule to the Companies Act 1948.
i. A certificate of exemption has been granted by The Stock Exchange under Section 39 of the Companies Act 1948.

12 Consents

Neville Russell & Co., Rowe Rudd, R. Stewart Newiss & Co., Binder Hamlyn and Shipley Blackburn have given and have not withdrawn their respective written consents to the issue of these Particulars with a copy of their Report and/or their Letter and/or the references to their valuations or to them (as the case may be) included therein in the form and context in which they are respectively included. These consents together with the statement of adjustments made by Neville Russell & Co. in arriving at the figures set out in their Report on the Habit Diamond Group, and the reasons therefor, and copies of the material contracts listed above have been attached to the copy of these Particulars delivered to the Registrar of Companies for registration.

13 Documents for Inspection

Copies of the following documents will be available for inspection at the offices of Clifford-Turner, Blackfriars House, 19 New Bridge Street, London EC4V 6BY, during normal business hours until 24th March, 1977: (a) the audited consolidated accounts of the Company for the two financial years ended 30th September, 1975 and 30th September, 1976; (b) the audited consolidated accounts of Habit Diamond for the two financial years ended 31st December, 1974 and 31st December, 1975 and for the nine months ended 30th September, 1976; (c) the Memorandum and Articles of Association of the Company; (d) the above-mentioned Report, Statement of Adjustments, Letters, Consents, Valuations, Service Agreements and Material Contracts.

28th February, 1977.

FT SHARE INFORMATION SERVICE

**BRITISH FUNDS

"Shorts" (Lives up to Five Years)

Interest Due		Stock	Price £	Last xd	Yield Int.	Yield Red.
26M	26S	Treasury 11½pc '77	100⅝xd	17.2	11.43	10.35
15M	15N	Treasury 3pc '77	95¼	11.10	3.15	10.02
20J	20D	Transport 4pc '72-77	95⅝	15.11	4.18	9.71
15S	15M	Treasury 9pc 1978	98⅝xd	7.2	9.12	10.45
14J	14Ju	Treasury 10½pc '78	99¾	8.12	10.53	10.69
26M	26S	Exch. 5pc '76-78	94¾xd	20.8	5.27	8.63
9S	9M	Treasury 11½pc '79	99¾xd	31.1	11.53	11.68
17M	17S	Treasury 3pc '79	90⅝xd	8.2	3.31	7.08
26M	26S	Electric 4¼pc '74-79	90⅝xd	17.2	4.69	8.37
1M	1N	Treasury 10½pc '79	97⅝	27.9	10.79	11.67
15M	15N	Electric 3½pc '76-79	89¼	11.10	3.92	7.97
3S	3M	Treasury 9pc 1980	97xd	25.1	9.28	10.18
14N	14M	Treasury 9½pc '80	95½	6.10	9.95	11.20
15D	15J	Treasury 3½pc '77-80	88¼	8.11	3.97	7.56
15D	15J	Funding 5¼pc '78-80	89½	8.11	5.87	8.99
25M	25N	Exchequer 13pc 1980	103	—	12.62	11.95
15J	15Ja	Treasury 11½pc 1981	100⅛	9.12	11.49	11.46
15A	15F	Treasury 3½pc 1979-81	84⅞	10.1	4.12	8.02
1O	1A	Treasury 9¾pc 1981	95⅜xd	23.2	10.21	11.17
23M	23N	Exch. 12¾pc 1981	102⅝	—	12.42	11.98
15J	15Ja	Treasury 8½pc '80-82	92⅜	9.12	9.10	10.25
15F	15A	Treasury 3pc '82	81	10.1	3.70	7.63

Five to Fifteen Years

Interest Due		Stock	Price £	Last xd	Yield Int.	Yield Red.
16M	16S	Treasury 14pc '82	107¾xd	7.2	12.98	11.89
17S	17M	Treasury 12pc 1983	100⅞xd	8.2	11.84	11.70
15J	15Ja	Funding 5½pc '82-84	81⅛	9.12	6.84	9.42
10J	10Ju	Treasury 8½pc '84-86	86⅞	6.12	9.91	10.98
1N	1M	Funding 6½pc '85-87	74¾	27.9	8.95	11.04
26J	26Ja	Treasury 7¾pc '85-88	77⅞	20.12	10.11	11.56
1J	1Ju	Transport 3pc '78-88	54¾	25.11	5.53	9.75
15A	15O	Treasury 5pc '86-89	59¾	8.9	8.64	11.35
15J	15Ja	Treasury 13pc 1990	97¼	9.11	13.58	13.74
15D	15J	Treasury 8¼pc '87-90	74⅜	8.11	11.35	12.51
5O	5A	Funding 5¾pc '87-91	59¾	1.10	10.01	2.11
22J	22Ja	Treasury 12¾pc '92	93½	16.12	13.83	14.00

Over Fifteen Years

[illegible]

Undated

[illegible]

**INTERNATIONAL BANK

[illegible]

**CORPORATION LOANS

[illegible]

COMMONWEALTH & AFRICAN LOANS

[illegible]

LOANS (Miscel.)

[illegible]

FOREIGN BONDS & RAILS

[illegible]

U.S. $ & DM prices exclude inv. $ premium

AMERICANS

[illegible]

S.E. List Premium [illegible] (based on [illegible] per £)

Conversion factor 0.7317 (0.7299)

CANADIANS

[illegible]

S.E. List Premium [illegible] (based on [illegible] per £)

BANKS AND HIRE PURCHASE

[illegible]

Hire Purchase, etc.

[illegible]

BEERS, WINES AND SPIRITS

[illegible]

BUILDING INDUSTRY, TIMBER AND ROADS

[illegible]

BUILDING INDUSTRY—Continued

[illegible]

CHEMICALS, PLASTICS

[illegible]

CINEMAS, THEATRES AND TV

[illegible]

DRAPERY AND STORES

[illegible]

DRAPERY AND STORES—Continued

[illegible]

ELECTRICAL AND RADIO

[illegible]

ENGINEERING, MACHINE TOOLS

[illegible]

ENGINEERING—Continued

[illegible]

FOOD, GROCERIES, ETC.

[illegible]

HOTELS AND CATERERS

[illegible]

INDUSTRIALS (Miscel.)

[illegible]

INDUSTRIALS—Continued

[illegible]

INDUSTRIALS—Continued

[illegible]

INSURANCE

[illegible]

MOTORS, AIRCRAFT TRADES

Motors and Cycles

[illegible]

Commercial Vehicle

[illegible]

Components

[illegible]

Garages and Distributors

[illegible]

NEWSPAPERS, PUBLISHERS

[illegible]

PAPER, PRINTING, ADVERTISING

[illegible]

PROPERTY

[illegible]

PROPERTY—Continued

[illegible]

SHIPBUILDERS, REPAIRERS

[illegible]

SHIPPING

[illegible]

SHOES AND LEATHER

[illegible]

SOUTH AFRICANS

[illegible]

TEXTILES

[illegible]

TOBACCOS

[illegible]

TRUSTS, FINANCE, LAND

Investment Trusts

[illegible]

TRUSTS—Continued

[illegible]

Finance, Land, etc.

[illegible]

TRUSTS—Continued

[illegible]

OILS

[illegible]

OVERSEAS TRADERS

[illegible]

RUBBERS AND SISALS

[illegible]

TEAS

India and Bangladesh

[illegible]

Sri Lanka

[illegible]

Africa

[illegible]

MINES

CENTRAL RAND

[illegible]

EASTERN RAND

[illegible]

FAR WEST RAND

[illegible]

O.F.S.

[illegible]

FINANCE

[illegible]

DIAMOND AND PLATINUM

[illegible]

MINES—Continued

CENTRAL AFRICAN

[illegible]

AUSTRALIAN

[illegible]

TINS

[illegible]

COPPER

[illegible]

MISCELLANEOUS

[illegible]

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures; they are adjusted to ACT of 35 per cent. P/Es are calculated on the basis of net distribution; bracketed figures indicate 10 per cent. or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution. Yields are based on middle prices, are gross and allow for value of declared distributions and rights. Securities with denominations other than sterling are quoted inclusive of the investment dollar premium.

- ♠ Sterling denominated securities which include investment dollar premium.
- ■ "Tap" Stock.
- • Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed.
- ‡ Interim since reduced, passed or deferred.
- ‡‡ Tax-free to non-residents.
- ♦ Figures or report awaited.
- †† Unlisted security.
- ¢ Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue: cover relates to previous dividend or forecast.
- ** Free of Stamp Duty.
- ♦ Merger bid or reorganisation in progress.
- ♣ Not comparable.
- ♦ Same interim: reduced final and/or reduced earnings indicated.
- § Forecast dividend; cover on earnings updated by latest interim statement.
- ‡ Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- ☆ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- ▼ Excluding a final dividend declaration.
- ✠ Regional price.
- ‖ No par value.

a Tax free. b Figures based on prospectus or other official estimate. c Cents. d Dividend rate paid or payable on part of capital; cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. r Australian currency. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast dividend: cover based on previous year's earnings. v Tax free up to 30p in the £. w Yield allows for currency clause. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Issue price. F Dividend and yield based on prospectus or other official estimates for 1977-78. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1976-77. K Figures based on prospectus or other official estimates for 1976-77. M Figures based on prospectus or other official estimates for 1978. N Dividend and yield based on prospectus or other official estimates for 1976. P Dividend and yield based on prospectus or other official estimates for 1977. Q Gross. T Figures assumed. U No significant Corporation Tax payable. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xc ex capital distribution.

"Recent Issues" and "Rights" Page 27

This service is available to every Company dealt in on Stock Exchanges throughout the United Kingdom for a fee of £325 per annum for each security

REGIONAL MARKETS

The following is a selection of London quotations of shares previously listed only in regional markets. Prices of Irish issues, most of which are not officially listed in London, are as quoted on the Irish exchange.

Albany Inv. 20p	38	....
Ash Spinning	34	....
Bertam	16	....
Bdg'wtr. Est. 50p	144	....
Clover Croft	21	....
Craig & Rose £1	360	....
Dyson (R.A.)	23	....
Ellis & McHdy	59	....
Evans Fr'k. 10p	25	....
Evered	$12\frac{1}{2}$	+1
Fife Forge	49	....
Finlay Pkg. 5p	16	....
Graig Ship £1	310	....
Hallam Sleigh 10p	$9\frac{1}{2}$	....
Higsons Brew	78	....
I.O.M. Stm. £1	135	....
Holt (Jos.) 25p	200	....
Kleen-e-Ze	42	....
Lovell's Ship £1	190	....
N'thn. Goldsmith	26	....
Pearce (C. H.)	30	....
Peel Mills	13	....
Robb Caledon 5p	46	+1
Sayers $12\frac{1}{2}$p	19	....
Sheffield Brick	74	....
Sheff. Refrshmt.	150	....
Shiloh Spinn.	21	....
Sindall (Wm.)	49	....

IRISH

Conv. 9% '80/82	£86¼xd	$-\frac{1}{4}$
Alliance Gas	49	....
Arnott	225	....
Carroll (P.J.)	135	....
Clondalkin	36	....
Concrete Prods.	73	....
Heiton (Hldgs.)	28xd	....
Ind. News	44	....
Ins. Corp.	130	....
Irish Distillers	55	....
Irish Ropes	106	....
Jacob	45	....
Sunbeam	16	....
T.M.G.	118	....
Unidare	58	....

OPTIONS

3-month Call rates

Industrials

A. Brew	$6\frac{1}{2}$
A.P. Cement	18
B.S.R.	10
Babcock	8
Barclays Bank	25
Berry Wiggins	5
Beecham	32
Boots Drug	12
Bowaters	16
B.A.T.	21
British Oxygen	6
Brown (J.)	17
Burton 'A'	6
Cadburys	5
Cavenham	10
Courtaulds	10
Debenhams	8
Distillers	13
Dunlop	$8\frac{1}{2}$
Eagle Star	11
E.M.I.	20
Gen. Accident	17
Gen. Electric	17
Glaxo	36
Grand Met.	7
G.U.S. 'A'	18
Guardian	18
G.K.N.	25
Hawker Sidd.	40
House of Fraser	8
I.C.I.	25
"Imps"	7
I.C.L.	14
Inveresk	7
Ladbroke	11
Legal & Gen.	12
Lex Service	5
Lloyds Bank	22
"Lots"	5
London Brick	5
Lonrho	8
Lucas Inds.	20
"Mums"	7
Mrks. & Spncr	10
Midland Bank	25
Nat. West. Bank	22
Do. Warrants	9
P & O Dfd.	12
Plessey	7
R.H.M.	5
Rank Org. 'A'	16
Reed Intl.	29
Reyrolle	12
Spillers	4
Tesco	4
Thorn 'A'	22
Trust Houses	13
Tube Invest.	30
Unilever	40
Utd. Drapery	$7\frac{1}{2}$
Vickers	15
Woolworths	6

Property

Brit. Land	$3\frac{1}{2}$
Cap. Counties	3
E.P.	5
Intereuropean	7
Land Secs.	14
MEPC	7
Peachey	6
Samuel Props.	$4\frac{1}{2}$
Town & City	$1\frac{1}{2}$

Oils

Brit. Petroleum	60
Burmah Oil	8
Shell	20
Ultramar	14

Mines

Charter Cons.	15
Chartered Fin.	4
Cons. Gold	15
Rio T. Zinc	18

FINANCIAL TIMES
Monday February 28 1977

Scottish swing may hit Labour

By Ray Perman, Scottish Correspondent

THE FIRST indication of the potential electoral damage to the Labour Party of losing the devolution guillotine vote came yesterday when an opinion poll showed that a score of seats could be lost to the Scottish Nationalists if there were a General Election in the near future.

This would almost certainly prevent Labour from winning a majority at Westminster. It could even give the SNP the balance of power in the Commons, although this would also depend on how many seats the Conservatives won from Labour.

The findings are no surprise to the Scottish Labour Party leadership, which is desperate that the Prime Minister should resist attempts by the nationalists to force an early election.

This week the SNP will launch a campaign to consolidate and extend the gains. The Parliamentary group is to meet the national executive to-morrow, and on Saturday a march and rally in Edinburgh will open a spring campaign leading up to the district council elections in May.

	Oct. 1974 General Election	Opinion Polls Feb. 10 1977	Now
Labour	36	32	28
SNP	30	31	36
Conservative	25	29	27
Liberals	8	7	7
Others	0.3	0.5	2

The poll, conducted by Professional Studies for the Sunday Mail, gave Labour 28 per cent. of the vote against 36 per cent. for the nationalists. A survey, by Opinion Research Centre, for the Scotsman, taken before the guillotine defeat last week, gave Labour 32 per cent. and the SNP 31 per cent.

Support has also been lost in Scotland by the Tories, who have fallen from 29 per cent. to 27 per cent. in yesterday's poll, according to ORC.

The swing away from Labour since the October, 1974, General Election when the SNP won 11 seats with 30 per cent. of the vote, is marked.

The Sunday Mail forecast that 17 of the 39 official Labour MPs in Scotland would lose their seats to nationalists.

In fact, private assessments by the parties indicate that the loss could be more dramatic. The Labour vote is crumbling much faster in the central and West of Scotland, where the party relies for its block support.

In the North-East Tory voters who defected to the Nationalists in 1974 have been drifting back. This could enable the Conservatives to retake some seats, but gains here may be offset by losses elsewhere.

IMF team resumes credit negotiations with Italy

BY DOMINICK J. COYLE

ROME, Feb. 27.

A FURTHER Italian stand-by credit from the International Monetary Fund will, it is expected be agreed after talks which open here to-morrow between Italian treasury and Bank of Italy officials and a visiting team of IMF experts led by Mr. Alan Whittome, who heads the IMF's European office.

The negotiations, which opened just over one year ago and were interrupted by the general election here last June, will concentrate on largely technical issues during the first few days, before Mr. Whittome and Sig. Gaetano Stammati, the Treasury Minister, get down to the politically sensitive task of drafting Italy's letter of intent to the IMF.

This is likely to incorporate undertakings by the minority Christian Democrat Government of Sig. Giulio Andreotti to hold Italy's inflation rate this year well below 20 per cent. and to hold the treasury deficit within IMF guidelines—but almost certainly considerably higher than the L.9,800bn. (£6,500m.) now estimated officially by the treasury.

The IMF is expected to grant Italy a further drawing of at least $530m. under the extended rights incorporated in the so-called Jamaica Agreement, in exchange for these undertakings. But the loan is likely to be made available in instalments over possibly 18 months. Each payment will be conditional on a satisfactory review of progress based on the commitments incorporated in Italy's letter of intent.

If, as is being assumed officially here, the negotiations with the IMF are concluded before the end of March, Italy will almost certainly get an additional facility of $500m. through the European Community. This would not be a new loan but would merely replace a British contribution to an earlier Community loan package which was withdrawn last December by the U.K. as part of its own repayment arrangements of a temporary stand-by credit negotiated with the Group of Ten.

The IMF team, which arrived here at the week-end, will concentrate on two aspects of the Andreotti Government's economic programme, measures to cut the acceleration of Italinan labour costs and steps to try to hold the treasury deficit this year near the L.9,800bn. forecast by Sg. Stammati.

The Government has already undertaken to neutralise in part the inflationary effects of the Italian system of quarterly threshold payments to most workers by transferring some social security costs borne by employers to the Treasury.

The resulting increased charges to the central government will be offset by higher indirect taxes. This measure has yet to be approved in Parliament, where the Andreotti administration has no working majority and, in effect, depends for its survival on the tacit support of the Communist Party.

The treasury deficit represents a much greater problem. Nobody here believes Sig Stammati's defined limits will be honoured, if only because of firm political commitments to new spending programmes which are not covered in current treasury estimates.

Sig Andreotti is banking on his understanding with both the Washington and Bonn Governments to secure this latest Italian loan from the IMF. He has already discussed the position at length in Bonn with Herr Helmut Schmidt, the Chancellor, and here in Rome with Mr. Walter Mondale, the U.S. vice-president.

In both cases Sig Andreotti emphasised that the future of his minority government was linked to a successful outcome of the protracted negotiations with the IMF.

Rhodesia Front chief attacks Smith

BY OUR OWN CORRESPONDENT

SALISBURY, Feb. 27.

SHORTLY BEFORE the Rhodesian Parliament begins its debate on proposals to ease racial discrimination in Rhodesia Mr. Ian Smith, the Prime Minister, has come under outspoken attack from the ruling Rhodesian Front acting chairman and has been accused of abandoning party principles.

Last week, Mr. Smith outlined measures to open agricultural land in the European area to all races, allow blacks to occupy and buy land in central business districts, and lift restrictions on black attendance at private schools and hospitals.

These and other proposals which included improved prospects for Africans in Government Ministries, have been criticised by moderate white parties as "too little too late" and dismissed as "irrelevant" by nationalists.

This week-end, Mr. Harold Coleman, acting Rhodesian Front chairman, declared: "It is now obvious that the Government, which was elected to power on Rhodesian Front principles, has now abandoned them completely."

He demanded that MPs "honour the undertakings given by them to the party when they were accepted as candidates for election to Parliament." This amounts to an invitation to MPs to vote against Bills incorporating the new measures, although there will be a three-line party whip.

To-day Mr. Coleman, vice-chairman for the past six years, continued the attack: "The ship of state is rudderless because the Government no longer stands on any principles — the Government are now a law unto themselves."

Assemblies

The Rhodesian Front, he said, should pursue its policy of provincialisation (which envisages territorial assemblies for blacks and whites). "This would ensure that no one race or even tribe could dominate the other," and would be the basis of an "internal settlement."

So far, there has been no reaction from Mr. Des Frost, party chairman, who returned this week-end from holiday in South Africa. However, he is likely to be sympathetic to Mr. Coleman's views.

Last month, he called a meeting of the Rhodesian Front national executive after the party caucus decision to reform race laws, saying he had been "reluctantly forced to the conclusion that the Government is breaking faith with its party members by disregarding one of the basic principles of the party."

But Mr. Smith emerged unshaken from the meeting and Mr. Frost has since been on holiday.

There is no doubt that the Prime Minister has the majority of the caucus and the party behind him. But the week ahead could pose problems.

The changes require a two-thirds majority. Sixteen members of the 66-seat parliament are Africans (three of them are deputy Ministers).

If the remaining 13 (who share nationalist criticisms of the measures) join forces with rebel Front MPs, Mr. Smith may be hard-pressed to get the necessary majority.

The African National Council, led by Bishop Abel Muzorewa, has repeated its call for a referendum supervised by Britain "or some qualified power" to elect a national leader.

In a statement issued by the publicity secretary, the Rev. Max Chigwida (Bishop Muzorewa is on an overseas trip), the ANC said it believes the referendum could be held within 14 days, using existing voters' rolls as well as giving a vote to all adults over 18.

The proposal was first put forward by the ANC at the Geneva conference, and has been rejected by other nationalist groups. They argue that a general election under a negotiated majority-rule constitution will ensure a representative, democratic Government, making a referendum unnecessary.

Call-up

Mr. Rowan Cronje, Minister of Manpower, who earlier this month took over responsibility for managing the military call-up system after the resignation of Mr. Reg Cowper as Defence Minister, has confirmed that steps are in hand to re-register men between 38 and 50. About 12,000 men in this group will be required to join the police reserve.

In a statement for release to-morrow, the Minister says that manpower problems "are well-nigh insoluble," but warns that the country is fighting a war for its "very existence."

In an apparent reference to business concern about the consequences of increased military commitments, he acknowledged: "This rate of call-up cannot be sustained for a long period without far-reaching effects."

THE LEX COLUMN

Dollar still king for bankers

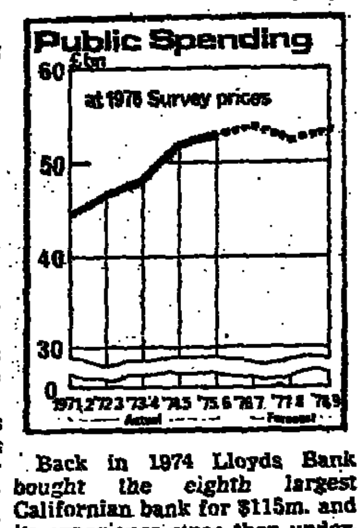
To-morrow, the Board of BanCal Tri-State Corporation is to meet in San Francisco to consider Standard Chartered's $130m. offer. The bid—equivalent to $30 per share — is roughly double the share price earlier this year but it might not be enough to persuade Baron Edmond de Rothschild to part with his 28 per cent. stake — a large part of which was bought in 1973 at $27 per share. BanCal's chairman, Mr. Chauncey Schmidt, who was only recently brought in to turn the bank round on a salary almost five times as large as Lord Barber's (chairman of SC), has already indicated his hostility to the bid so SC may have to raise its offer.

African connection

Standard Chartered badly needs to diversify its earnings base. Last year around a fifth of its pre-tax profits of £92.3m. came from the Middle and Far East and as much as half came from Africa with South Africa contributing around £25m. and Nigeria £12m. Its lucrative Nigerian business is being diluted by local participation, and given the political problems in Southern Africa it might be sensible to reduce the reliance on Standard Bank Investment Corporation (two-thirds owned by SC) whose total footings of £2.6bn. loom large within the group total of £6.7bn.

However, the bid for BanCal is going to do little for Standard Chartered's earnings. Over the last six years BanCal's profits have dropped by two-thirds while its assets have risen by half. Over the same period Bank of America's profits have nearly doubled so there is plenty of scope for recovery at BanCal. But even assuming that it can earn the same sort of return on its assets as B of A, BanCal is unlikely to make more than $15m. per annum after tax, which will only just about cover the servicing costs on the $130m. outlay.

In addition, the Californian banking market is highly competitive and the rapid economic growth of the 1950s and 1960s has slowed down considerably. Over the last six years the profit record of most of the major local banks has not been spectacular. Net profits of Western Bancorp, for example, have risen by just under a quarter while those of Crocker and Security Pacific have risen by a third.



Back in 1974 Lloyds Bank bought the eighth largest Californian bank for $115m. and its experience since then underlines the sluggishness of the local economy. Swelled by another acquisition Lloyds First Western's loans have risen by 9 per cent. since 1974 to $0.9bn. but net profits have fallen by a tenth and at $4.5m. are overshadowed by the financing costs of $12m. or so borne by its parent.

However the big attraction of California for foreign banks such as SC is that it provides a stable dollar deposits base. In the case of Bank of America nearly half of its domestic deposits are savings deposits and in the case of BanCal, a fifth. Since well over three-quarters of SC's business is in non-sterling currencies, there are definite attractions in having access to domestic dollars to back up its operations in the eurodollar market. There is always a fear that under certain circumstances the euromarket might dry up and a sterling-based bank might find it impossible to obtain dollars to cover its medium-term dollar commitments.

Public spending

Volume Two of the White Paper on Public Expenditure again sets out the official view that interest rates are on a declining trend. Recent high levels "assumed at the time of compilation to persist into 1977-1978" will fall during that year. By 1978-79 inflation is expected to slow down further, and interest rates are assumed to come down at the same time.

The Treasury's projections indicate, however, that the real burden of debt interest will still be rising through next year. Although the new presentation of interest has dramatically reduced its size by eliminating double counting—the esti is just £1.8bn. at 1978 su prices for 1976-77—this dual total has proved very sitive to recent economic tr In fact this total is expecte double between 1975-76 1977-78, when it should leve at £2.3bn.

Partly this leap reflects fact that interest on debt w is on-lent or invested in tra activities, and is now n out of the total, has been r comparatively slowly. The dual figure, financed ou taxation or new borrowing risen much faster. More the rate of inflation was in 1975-76 which prevent sharp "real" increase in interest: but "in the cu year inflation has fallen nominal interest rates stayed high. Looking a interest rates and inflatio the Treasury's assum could roughly cancel each out in their effects on th interest burden, but levels of new borrowing provide a new restr factor.

The stabilisation of spending which forms the ground to this fall in bor is, of course, the essential of the White Paper. Y document also highligh fact that the really impact is to be felt by programmes rather th current spending. Real expenditure by local a ties, for instance, is set to halve over a five-year from the 1974-75 peak.

Real capital spending assets by the nationalise tries is also scheduled next year, by over 11 p And the proportion o capital requirements to anced out of internal r is to jump from 43 per 53 per cent. The contrast between the Gas Cor and the Post Office, usi monopoly pricing power into cash surplus, and Steel which next year count for more than h the sector's net borrow cluding grants).

Such figures are boun petuate the impression public sector is solving lems largely at the ex private industry, not construction industry, while the gilt-edged m left to ponder on the T capacity to forecast— to control—a more steady fall in interest a two-year period.

Embassy coupons to end

By Stuart Alexander

COUPONS ARE to be stopped entirely on Embassy Gold and Embassy Envoy cigarettes, says W. D. & H. O. Wills, part of the Imperial Group. Embassy Regal will be available with and without coupons. All packs without coupons will be 2p cheaper than previously.

This means that the whole Embassy range, which, at its peak, accounted for more than 30 per cent. of the U.K. market, will be available without coupons. The success of the brand was originally due to its coupons, which it introduced in the early '60s.

Last month Embassy launched King-Size No. 1 and standard-size No. 3 to run with Embassy Kings and Embassy Filter, which continue with coupons. At the same time it launched its Discount Club, which gave smokers the chance to buy goods at cut prices.

The Gold and Envoy packs will remain the same, but Wills is introducing a pack with a two-tone blue diagonal stripe to distinguish the non-coupon Regal brand.

The increased move away from coupons has followed the continuing price war and the move towards tax harmonisation, through which the EEC which would tax the value of the coupons as well as the cigarettes.

Rothmans has announced that it is stopping all coupons and trading stamps. Player and Gallaher have either stopped coupons on certain brands or offered non-coupon alternatives at a lower price.

Labour's opposition to CAP stiffens

BY RUPERT CORNWELL, LOBBY STAFF

THE THREATENED sale of cut-price EEC butter to the Soviet Union is not only stiffening the Government's resolve to force an overhaul of the Common Agricultural Policy, but also further complicates the contentious European direct elections issue.

Mr. John Silkin, the Agriculture Minister, will be in Brussels to-day for talks with the Commissioner in charge of Agriculture, Mr. Finn Olav Gundelach.

Britain holds the Chair at the Council of Ministers, and the meeting was arranged some while ago. But with the political fury at home ringing in his ears, Mr. Silkin will make the point that the sale provides further proof that the CAP must be changed in favour of the consumer.

Devalue

Labour MPs from both the pro and anti Common Market camps were last night urging him to use the issue as added justification for resisting pressure to devalue the "green pound," the artificial EEC unit of payment whose present high value keeps the price of U.K. food imports from the Community cheaper than they would otherwise be.

Last week the Labour Party's Left-dominated national executive stressed that Britain must hold firm on the "green pound" until the CAP had been changed, and also should oppose higher farm prices recommended in the last Brussels review.

To try and defuse the situation the Commission has suspended applications for butter export subsidies until Wednesday "to give a pause for reflection." The latest price package also contains butter subsidies for the U.K., as well as a freeze on milk (and hence butter) prices for six months until September.

But Mr. Tom Torney, the Left-wing MP for Bradford South, plans to put down a Commons motion urging Mr. Silkin to press for the abolition or radical reform of the "stupid and futile" CAP—and this will probably gain wide support.

Given the general dislike within the Labour Party of the agriculture policy as it now stands, the butter deal is unlikely to provoke a row between pro-and anti-marketeers.

It can, however, only increase the hostility of the latter to the very idea of direct elections to the European Parliament, and makes the Cabinet's decision on Friday effectively to put off introduction of such a Bill for three months an even wiser move in party terms.

Another Labour MP, Mr. William Molloy (South Ealing), and a member of Labour's delegation to Strasbourg, has demanded that Mr. Silkin instigate a sweeping inquiry into the butter sales.

"This highlights the farcical situation of the European Parliament, when members of that Parliament had no knowledge of the deal until we read it in the Press. We want to think about these things before we start sending anybody to Strasbourg by direct elections," he said yesterday.

Caution call on inflation accounting

By Michael Lafferty

INFLATION accounting issues are too subtle, too complex, and not yet widely enough understood to be resolved by a revolutionary change to a new accounting system, according to Price Waterhouse International, the leading international accounting firm.

The firm said historical cost-based accounting was a versatile, flexible system which had demonstrated its ability in the past to adapt to new economic and business circumstances.

"PWI believes that inflation, even of the persistence and magnitude of the global inflation of recent years, is essentially another set of circumstances to which historical cost may be able to adapt responsively."

These views are given in a publication* which sets out the consensus of opinion on the inflation accounting issue among Price Waterhouse firms throughout the world. They are likely to have a significant impact on the U.K. firm's submission to the Morpeth Inflation Accounting Steering Group.

* Accounting in the Face of Inflation. Price Waterhouse International, Southwark Towers, 32, London Bridge Street, London, SE1 9SY.

Continued from Page 1

Builders

preciation allowances should be given for buildings as well as machinery, and that preferential interest rates should be introduced to encourage investment.

The paper is bound to cause considerable upset both within the industry, which feels that it has had to bear the brunt of expenditure cuts, and in the TUC, which has recently expressed considerable concern about construction employment.

Wednesday's meeting is, nonetheless, likely to be a fairly low-key affair, devoted mainly to considering aspects of the industrial strategy, following last month's meeting to review progress in the strategy's second phase.

In addition to the paper on construction, the council will debate also a report by Sir Frederick Warner on rationalising the myriad differing standards and specifications in the engineering industry.

Continued from Page 1

Caution advised on cuts

that all the resources released from the public sector will be taken up elsewhere, and there is a risk that the policy may "dig too deep a hole."

"There is a real danger of the reduction of public expenditure being viewed as a panacea," they write.

"It is tending to take a place in the mythology of the Right comparable to the place occupied by profits in the mythology of the Left: an inexhaustible reservoir to pay for the increased living standards of the deserving."

Reviewing the Letter of Intent, they express concern over the figures given for the Public Sector Borrowing Requirement. Noting these figures are given on the basis of forecasts of certain rates of growth, they point out that if these prove wrong, the PSBR may also turn out different from the forecast.

As it is quite impossible to predict them accurately, they hope that the figure is not rigidly stipulated.

On exchange rate policy, they say that there is a strong temptation to let the rate rise if there is an inflow from abroad to help check inflation.

However, they say it is more important to provide stable conditions for export industries. Policies should aim to keep competitiveness constant and rebuild the reserves.

In their monthly forecast published to-day, stockbrokers Phillips and Drew say inflation cannot be reduced to single figures in the foreseeable future without a tighter incomes policy and a tighter monetary policy. But at present neither seems likely to be forthcoming, they warn.

Weather

U.K. TO-DAY

MAINLY dry.

London, Midlands, N. Wales, I. of Man, N. Ireland

Sunny periods, mostly dry. Max. 6C (43F).

Cent. S.E. England, Borders, Edinburgh, Dundee, Aberdeen, Moray Firth, N.E. Scotland, Orkney, Shetland

Sunny or clear periods, isolated showers. Max. 4-6C (39-43F).

Channel, S.W. England, S. Wales

Mostly cloudy, rain at times. Max. 8C (46F).

N.W., N. England, Lakes, W. Scotland, Glasgow, Cent. Highlands, Argyll

Sunny spells. Max. 5-7C (41-45F).

Outlook: Sunny, occasional rain in the S.W.

BUSINESS CENTRES

	Y'day Mid-day	°C	°F		Y'day Mid-day	°C	°F
Alexandria	S	25	79	Luxembg.	S	1	34
Amsterdm.	S	1	34	Madrid	C	12	54
Athens	S	17	63	Manchstr.	S	3	41
Barcelona	F	13	55	Melbourne	C	17	62
Beirut	C	19	66	Milan	S	12	54
Belfast	F	4	39	Montreal	C	3	37
Belgrade	S	5	41	Moscow	S	−3	27
Berlin	C	−1	30	Munich	F	−1	30
Birmghm.	S	3	37	Newcastle	F	4	39
Bristol	C	3	37	New York	S	9	49
Brussels	S	3	37	Oslo	S	2	36
Budapest	F	−1	30	Paris	S	3	37
B. Aires	S	26	79	Perth	F	36	97
Cairo	S	20	68	Reykjavik	C	4	39
Cardiff	C	4	39	Rio de J'o	S	35	95
Cologne	F	6	43	Rome	S	16	61
Copnhgn.	S	−2	28	Singapore	S	25	59
Dublin	C	5	41	Stockholm	S	−3	27
Edinbgh.	F	4	39	Sydney	C	32	71
Frankfurt	S	4	39	Strasbrg.	F	4	39
Geneva	C	4	39	Tehran	S	10	50
Glasgow	S	5	41	Tel Aviv	S	17	63
Helsinki	S	−8	18	Tokyo	C	13	55
H. Kong	S	20	68	Toronto	C	1	34
Jo'burg	S	22	72	Vienna	Sn	1	34
Lisbon	F	15	59	Warsaw	F	−2	28
London	F	8	46	Zurich	F	0	32

HOLIDAY RESORTS

		°C	°F			°C	°F
Ajaccio	C	14	57	Jersey	C	3	37
Algiers	F	21	70	Las Plms.	C	20	68
Biarritz	C	17	63	Locarno	S	10	50
Blackpool	S	4	39	Luxor	S	32	90
Bordeaux	S	14	57	Majorca	S	17	63
Boulogne	S	5	41	Malaga	S	20	68
Casablnca.	S	22	72	Malta	F	17	63
Cape Tn.	S	27	81	Nairobi	C	20	68
Corfu	S	14	57	Naples	S	16	61
Dubrovnik	S	12	54	Nice	S	13	55
Faro	S	16	61	Oporto	C	14	57
Florence	C	14	57	Rhodes	F	18	64
Funchal	S	16	61	Salzburg	C	−1	30
Gibraltar	C	17	63	Tangier	S	13	55
Guernsey	C	4	39	Tenerife	S	15	59
Innsbruck	C	1	34	Tunis	F	20	68
Inverness	S	4	39	Valencia	F	17	63
I. of Man	S	3	37	Venice	S	8	46
Istanbul	C	6	43				

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